The
VETERINARY RECORD
Founded by William Hunting, F.R.C.V.S., in 1888
7, MANSFIELD STREET, PORTLAND PLACE, LONDON, W.1. MUSEUM 6541
No. 37 SEPTEMBER 10th, 1955 Vol. 67
Registered for Transmission as a Newspaper *Price 2s. post free*

The Opening of Congress

MORE than 400 delegates, their wives and friends, attended the official opening of Congress in the Sir William Whitla Hall of Queen's University, Belfast, last Monday morning. An unusually well attended Congress—the final figures may prove it to be the largest ever held outside London—admirably organised, was made welcome to the City by the Lord Mayor, Alderman R. J. R. Harcourt, J.P. In introducing him the President, Professor Robertson, said:

"This is the 73rd Congress of the British Veterinary Association, and I am very glad to see so many of you attending our opening ceremony. It is something like 20 years since we last held our Congress here and during that period the Association has grown in size and importance, as evidenced by the fact that this is probably one of the largest gatherings we have had outside London.

"We are very grateful that so many people have seen fit to come here to support the officers and the local committee in their efforts to make this an outstanding Congress, which I am sure it will be.

"We are most fortunate to have with us here to-day the Lord Mayor of Belfast, Alderman Harcourt, who has come to offer you a few words of welcome on behalf of the city and the corporation. He is a very suitable person to do so, being a prominent member of the Council of the Zoological Society, who takes a very active interest in its work."

The Lord Mayor then rose, amid applause, and said: "I am very pleased indeed to welcome this Congress to Belfast. To you, Sir, and to all the delegates and visitors I extend hearty greetings from the city and all the members of the corporation. You have made reference to the fact that I am a prominent member of our Zoological Society. That is quite so, and in that position I have come across many members of your profession. If I may say so, I think the work of your profession is most difficult because your patients cannot give any indication by word of mouth as to the nature of their complaints, so you alone have got to find out what the trouble really is. You do that with a wonderful skill, which must be a source of great satisfaction to any person with humane instincts.

"I do hope that you will have a very successful Congress. Your President has told you that it is your 73rd, and I hope it will not be another 20 years before you come back here again. I would suggest you hold your 75th Congress here—two years hence, not 20. I do assure you of a hearty welcome and any assistance that the people of Belfast and the Corporation can give you will be given wholeheartedly."

In reply the President said that the Association looked forward to its week's labours with a new enthusiasm in the light of what the Lord Mayor had to say.

They were fortunate in having present the Rt. Hon. the Reverend R. Moore, Member of Parliament for N. Ireland since about 1938 and Minister of Agriculture since about 1943. He was personally interested in the activites of the profession being a farmer himself, and having been an active member of the local farmers' union for many years. They were very glad that he had agreed to come along and address Congress at this opening meeting.

Addressing the delegates the Minister said: "It is a pleasure for me to come along this morning to add my welcome on behalf of Northern Ireland to the welcome which has already been extended to you on behalf of Belfast and the city Corporation on this occasion of your Congress. I understand this is your 73rd annual meeting and it is now 20 years since you were in Belfast. Well, I am delighted—and I speak not only on my own behalf but on behalf of the Government—that you have seen fit to come back to Belfast. I believe there are some people here who attended that previous Congress in Belfast, and it has been whispered in my ear that they carried away with them very favourable impressions of that occasion. (Applause.) I can only hope that at least no less favourable impressions will be left with you of this present occasion.

"Your profession, as the President has indicated, is one very intimately connected with the Ministry I represent. More and more agriculture is becoming industrialised and specialised, though we in Northern Ireland can hardly claim that we are specialists in the sense in which certain sections of the industry have become specialised in Great Britain and in other parts of the world.

"We are a community of comparatively small farmers in Northern Ireland, family farmers in the

main, and we are blessed or otherwise with a somewhat fickle kind of climate. It has its advantages, but it has also its disadvantages and the consequence is that our farmers in the main, the vast majority of them, cannot afford to specialise. They have to have something of everything and so the general system of farming here is what we call mixed farming, and in that particular type of farm economy livestock naturally plays a very important part. It is not hard for anybody to see how intimate must be the relationship between a profession such as yours and a Ministry such as mine; and I can easily bear testimony, and I do it honestly and whole-heartedly, to the work that was done by the veterinary department all through the war period and the emergency in connection with our livestock and with emergency developments and food production and various things of that kind. They were a tower of strength to us and we came to recognise that, both the farmers and the Ministry.

"I do not think I should appear to be unduly boastful if I reminded you that we have a veterinary research department connected with the Ministry of Agriculture. Professor Lamont is the head of that department and he has there with him—I was going to say under him, and I changed my mind and said with him—a team of very able and very devoted veterinarians. I have been over the department, when they showed me everything I was capable of understanding, and so I know personally that they are doing a very fine job and have made a really substantial contribution to the advance of veterinary science. (Applause.)

"There would not be any point in my labouring the value and the necessity of a profession such as yours, but I may say that certainly in the last 12 years, perhaps over a longer period, there has grown up a very strong bond of confidence between the working farmer and the practising members of your profession. We can claim to have a very fine bill of health for our livestock generally. We have been fortunate in that we have escaped any major outbreak of foot-and-mouth disease or swine fever or those other pests, and that too is largely due to the active measures that were taken when an outbreak of one or other of these diseases took place. The professional men got good sound co-operation from the farming community, and in a comparatively short time in each case the trouble was wiped out and we were back to the *status quo*.

"This branch of science is just like any other branch of science: there is no standing still. The progress has in some ways been phenomenal over the last few years. As Tennyson said,

> 'Yet all experience is an arch wherethro'
> Gleams that untravell'd world, whose margin fades
> For ever and for ever when I move.'

The more that is learnt and the more that is discovered through the efforts of research and in the daily experience of members of the profession, the more there seems to be there, and there will be no end. That in itself, I think, indicates the necessity for the constant exchange of knowledge and of discoveries and advances in connection with your science.

"A poet once suggested that certain persons had tried to catch the wind and store it in great chests so that it might be released in small amounts later on, at retail rates. Then they discovered that somehow, as the great Book puts it, "The wind bloweth where it listeth," and the air was always in circulation. When they opened their chests for the air they had stored, it was stale. You cannot keep these things to yourselves. No nation, no community can do it—no profession can do it. It is a great thing that you should meet from time to time like this, to exchange and discuss the latest ideas. It acts as a spur to still further progress. And so science goes on.

"I hope that your gatherings here in Belfast will profit you and the whole profession very much indeed, and I hope that you will have a very happy time and will carry away with you very pleasant memories of your visit to Northern Ireland. Somebody said that conferences of the big Powers spent so long discussing procedure that they had no time left in which to proceed. I hope you will not be handicapped in any such way, and I think it is now better for me to stand aside so that you may continue with your business.

"I have been asked to declare the Congrees open and I have very great pleasure in doing so." (Applause.)

The President thanked the Minister, and then introduced the final speaker. "We are meeting this morning," he said, "in what I am sure you will all agree is one of the finest settings in which we have held the opening of any of our Congresses, and for that we are indebted to the University. The University has done a tremendous amount to ensure the success of our Congress. To add further to our debt, the Pro-Vice-Chancellor has come to express the University's welcome." (Applause.)

Professor F. H. Newark, B.C.L., M.A., the Pro-Vice-Chancellor, replied: "Just as the Lord Mayor has welcomed you to the city and the Minister has welcomed you to the province, so it is my very pleasant duty to be able to welcome you to this University."

He offered the fullest facilities Queen's could afford, and invited the delegates to inspect any part of the buildings they might wish to see, and ask any questions about the work and amenities the University provided for its students and for the city generally.

Immediately after the formal opening of Congress, the President opened the commercial exhibition which, as always, he said, played a most important part in the week's proceedings. (Details of the exhibits are given on page 695 under the name of each exhibitor.) The platform party, which included the distinguished guests, the officers and their ladies, Professor and Mrs. Lamont, and the joint secretaries of the Congress, Dr. Pearson and Mr. Gordon, then inspected the exhibition before it was opened to the public.

It is proposed to publish the President's address to the Association at the Annual General Meeting next week, together with accounts of the Banquet and other social activities. The papers and discussions will follow later.

Investigations on the Control of Virus Pneumonia of Pigs (V.P.P.) in the Field*

BY

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IN view of the economic importance of virus pneumonia of pigs (Betts & Beveridge, 1953) a method of controlling the disease is obviously highly desirable. The antibiotics and chemo-therapeutic agents at present available have no therapeutic action against virus pneumonia, although by their action on secondary organisms they frequently cause clinical improvement (Betts & Campbell, 1955). Experiments to be reported later indicate that vaccination, even with living virus, fails to confer any protection and there is no field evidence that a natural attack produces any appreciable immunity. Attempts to develop specific serological or allergic tests for the detection of carrier pigs have so far been unsuccessful. These features, together with the comparatively high incidence of symptomless carriers, make the control of the disease difficult. However, the possibility remains that, by utilising a knowledge of the epidemiology of the disease, control might be feasible by breaking the cycle of infection. Such a method of eradicating the disease from infected herds has been evolved and this paper is an account of its application in the field to date. The method is tedious and difficult to administer, consequently it has not been possible to apply such control measures under all conditions.

Epidemiological Considerations

The basic questions regarding the epidemiology of the disease that must be answered before any such method of control can be adopted are :—

1. Is virus pneumonia a specific contagious disease, and, if so, is the causal agent an obligate parasite and is it specific to the pig?—The original work of Gulrajani & Beveridge (1951) indicated that this disease is, in fact, a specific infection due to a virus whose only known host is the pig. Subsequent studies in this laboratory and abroad have confirmed this finding.

2. Is the virus a common inhabitant of the respiratory tract of 'normal' pigs, i.e., *with no pneumonia?*—In a limited series of experiments it was not possible to demonstrate the presence of the virus in the lungs of young pigs free from macroscopic lesions. The series did not include pigs incubating the disease nor adult animals which may have had lesions but recovered. Field evidence was in accordance with these experiments.

3. How long does the agent persist in the pig after it has become infected?—Experiments and field observations have shown that in a large proportion of infected animals the virus persists for periods of several months ; sometimes longer than a year. Such animals usually show no symptoms, but lesions of pneumonia can be found in them *post mortem* (Betts, 1952). Nevertheless, many animals do recover eventually and show no lesions at slaughter ; it is not known whether these animals remain carriers.

4. How long does the agent survive outside the natural host?—Experiments to be reported suggest that the agent does not survive for more than a day under farm conditions.

5. What is the mechanism by which the disease spreads? Observations and experiments indicate that the disease spreads solely by the airborne route and that mechanical or intermediate vectors play no part in its transmission.

This knowledge of the epidemiology suggests that it may be possible not merely to eradicate this disease but also to keep herds free from it so long as there is no contact with infected pigs. This theoretical belief was supported by experience with the V.P.P.-free herd at the Department of Animal Pathology, which herd has remained free from virus pneumonia since its establishment in 1951 (Betts, 1952).

The Control Plan

When virus pneumonia is endemic in a herd, piglets tend to become infected at one of two principal times. Some contract infection from the sow, when they usually show symptoms at three to six weeks of age. But, more commonly, pigs become infected after weaning when they are placed in airborne contact with infected pigs, in which case symptoms generally develop two to three weeks after contact. The clinical features of the disease have been described previously (Betts, 1952).

The two fundamental problems in any plan based upon epidemiological considerations for the control of virus pneumonia are, firstly, the detection of symptomless carrier animals as well as the obviously infected pigs, and, secondly, the prevention of the transfer of infection from frankly infected or carrier pigs to healthy pigs.

In view of the widespread occurrence of the disease and its occult nature, it is necessary to regard all pigs as infected until proved otherwise.

In the control plan, therefore, each sow was farrowed down in a sufficient degree of isolation to prevent the airborne transmission of infection from one pen to another, and the litter was used as an indicator of whether or not the dam was a carrier. If a sow is a carrier and is shedding the virus her piglets usually begin to show symptoms which are detectable before weaning. However, it was found, during the course of the trial, that an occasional litter did not develop symptoms until after weaning. On two farms this was thought to be due to the incorporation of antibiotic

* The Agricultural Research Council provided a grant to cover most of the travelling expenses incurred as a result of this work and also the salary for one of us (P. W.) during 1953 and 1954.

feeding supplements in the creep-feed. Although the antibiotics at present available do not have any effect on the virus once infection is established, they may reduce the incidence of coughing (Betts & Campbell, 1955). Thus, the detection of infected litters is made more difficult. On one of these farms the antibiotic (Aurofac) was removed from the creep-feed and subsequently no further difficulties were encountered from that cause. In a few instances a litter did not show symptoms of virus pneumonia until after weaning, even though antibiotics had not been fed. It was thought that a carrier sow under certain conditions might not actually excrete virus until shortly before her litter was weaned. To overcome this complication, in the latter part of the trial, the sow was removed at eight weeks and the litter kept in isolation and under observation for a further four weeks.

Symptoms in piglets are generally obvious, particularly after a short period of exercise, but it was found necessary to check the diagnosis in some instances by the examination, *post mortem*, of at least one piglet per litter. Infected litters were discarded together with their dams, while litters which passed the test were mixed only with other healthy pigs. After the grouping of litters believed to be free from virus pneumonia, observation of the pigs for coughing was continued. When the pigs reached marketable weight the lungs from a high proportion of castrated hogs and gilts not required for breeding were examined. This examination of lungs from fat pigs was taken as the ultimate test of whether or not the group was free from virus pneumonia.

Originally, sows which produced "clean" litters were mixed only with other sows that had passed the test, and subsequently they were farrowed in isolation for a second time. However, in one case at least, a sow which had produced a litter free from virus pneumonia at one farrowing, subsequently produced an infected litter, although during the intervening period there had been contact only with animals believed to be free from virus pneumonia. Ideally, therefore, in order to overcome the problem of the carrier sow shedding the virus intermittently, it was felt advisable to sell all the original breeding stock as soon as possible and to build up the new herd entirely from the healthy progeny. In no instance was there any evidence of transfer of infection from a suspected carrier sow to recovered sows when they were kept together under open-air conditions. This may indicate a slight degree of resistance in sows which have previously been exposed to the disease.

The method affords no satisfactory way of detecting a carrier boar and it is obviously essential that healthy sows and gilts must not be exposed to infection from the boar. Two methods were adopted to overcome this difficulty: (1) the use of a boar obtained from a herd free from virus pneumonia and (2) the use of the existing boar in a service-crate which had been suitably modified to prevent the transfer of infection from the boar to the sow. The service-crate, in effect, sealed off the head of the sow from airborne contact with the boar. As an additional safety precaution a piece of canvas was draped over the back of the sow. In some herds it was found possible ultimately to use a healthy boar bred from the existing stock. Another possible method but one which has not been utilised in the field trial is that of artificial insemination.

The virus does not live for long outside the animal body, but to allow an adequate margin of safety the farrowing-houses were cleaned-out thoroughly and left empty for seven days before the introduction of other pigs. A similar period of time was allowed to elapse between the removal of the last infected or suspected pig from the fattening-house and the introduction of the "clean" stock.

Since the disease spreads by droplet infection through the air and not indirectly by means of fomites, "clean" pigs were separated by a distance of at least 6 feet in the open air from possibly infected pigs by means of double fencing, and were never put in the same building as infected pigs.

During the course of the trial it was found that progress was more satisfactory and fewer difficulties arose when the size of the herd was reduced before eradication was attempted.

Criteria of Freedom from Virus Pneumonia

Freedom from virus pneumonia can only be judged on a herd basis. The following criteria have been adopted :—

1. *The Slaughter Test.*—Over an initial period of at least six months the lungs from a high proportion of pigs sent to slaughter must be examined. Subsequently from time to time lungs from a representative sample of pigs slaughtered must also be examined. These examinations must reveal no lesions of virus pneumonia. In addition, any pigs suspected of having respiratory infection should be killed and their lungs examined. In the case of pedigree herds where few pigs are sent to slaughter the initial examination of lungs must continue over a much longer period than six months.

2. *Clinical Examination.*—Examination of lungs at slaughter must be supplemented by a continuous series of clinical examinations of the entire herd at intervals of three to six months which must reveal no clinical evidence of virus pneumonia.

3. *Isolation.*—In order to prevent infection from outside sources (*a*) the herd must be kept closed apart from the purchase of breeding stock from other herds known to be free from virus pneumonia, (*b*) adequate steps must be taken to prevent infection occurring from pigs of other herds, (*c*) any pigs which are sent to shows must not be returned to the herd.

Difficulties in Clinical Diagnosis of Virus Pneumonia

Most of the coughing occurring amongst pigs in intensive fattening-houses is thought to be due to virus pneumonia. However, there are other causes of coughing in pigs, particularly in young pigs, which are liable to cause confusion. In the absence of any specific method for the diagnosis of virus pneumonia in the living animal it is necessary to discard all litters which cough from any cause ; that is, unless some of the pigs from the suspect litter can be slaughtered to ascertain whether the coughing is, in fact, due to causes other than virus pneumonia.

The conditions that most commonly cause confusion are as follows :—

Lungworms and Lungworm Pneumonia.—In the herds visited, infection with lungworms was the most common cause of coughing apart from virus pneumonia. Lungworms have been observed to cause severe coughing amongst large groups of pigs kept in yards as well as in pigs at pasture. Litters affected with lungworms, like those affected with virus pneumonia, usually start coughing between four and eight weeks of age, and the cough is not readily distinguishable from that of virus pneumonia.

This difficulty can be overcome by keeping the litters in pens where they have no access to earthworms. The difficulty may be minimised by moving the litters to be tested on to land which has not carried pigs for a number of years, and, if possible, by keeping the litters in fold units which are moved daily.

Other Forms of Pneumonia.—A few cases of pneumonia other than virus pneumonia were found to occur sporadically and it was difficult to differentiate them from virus pneumonia without slaughtering the affected animals. In some instances detailed laboratory examination was necessary to effect a diagnosis.

Other Conditions.—A number of other conditions, such as pericarditis or pleurisy, were encountered which occasionally caused sporadic coughing in suckling piglets without pneumonia being present. It was sometimes necessary to slaughter affected piglets to ensure that they were not affected with virus pneumonia.

Very commonly, normal piglets two to four weeks of age cough following vigorous exercise. The cause of this soft characteristic coughing has not been determined but in our experience it cannot be elicited after the piglet is about five weeks of age. Therefore, to avoid confusion from this cause, piglets were not examined for coughing due to virus pneumonia, before they had reached five weeks of age.

Diagnosis *Post mortem* of Virus Pneumonia

From the herds in the field trial 3,037 lungs have been examined macroscopically, and of these 891 had pneumonic lesions.

In the majority of cases little difficulty was encountered in recognising lesions of virus pneumonia by ordinary macroscopic examination of lungs and lymph nodes. However, in all cases, to effect a diagnosis of the type of pneumonia, the epidemiology and clinical picture of the disease in the herd has been taken into account in addition to the macroscopic appearance of the lesions. In 214 cases histological examinations have been made, details of which will be published at a later date. In the present state of our knowledge of the histopathology of the disease it was found that macroscopic examination of lungs coupled with consideration of the clinical and epidemiological picture in the herd was at least as effective a means of diagnosis as histological examination of the lesions.

It was found that there are certain conditions that may cause confusion :—

Non-pneumonic Conditions

(*a*) Blood and oedematous fluid in the lungs of pigs killed at slaughterhouses may superficially resemble lesions of virus pneumonia, but with a little practice it is easy to distinguish these conditions from pneumonia.

(*b*) Collapsed areas are occasionally found. These can be easily differentiated from virus pneumonia by histological examination.

Pneumonic Conditions

(*a*) *Lungworm Pneumonia.*—Of the 891 lungs showing lesions of pneumonia, 271 had lesions which were diagnosed as lungworm pneumonia on macroscopic examination, and 34 of these were examined histologically and the diagnosis confirmed. On the other hand, a further 13 lungs which appeared to be affected with virus pneumonia on macroscopic examination were in fact found to be affected with lungworm pneumonia when examined histologically. The clinical and epidemiological history of these cases, however, had suggested that the infection was not virus pneumonia.

Pneumonic lesions caused by lungworms are usually confined to the posterior part of the diaphragmatic lobes, but in a small percentage of cases lesions may be found in the anterior lobes. Lesions are generally associated with areas of emphysema and parasites can usually be demonstrated in the bronchioles.

(*b*) Pneumonia associated with the presence of large numbers of giant cells was found to occur in particular herds and 55 cases have been examined histologically. While in many cases the macroscopic appearance of these lesions was not typical of virus pneumonia, in 21 cases the two types of pneumonia were not distinguishable macroscopically. However, this form of pneumonia differed clinically from virus pneumonia and also could be differentiated from it on histological examination.

(*c*) Altogether only eight cases were encountered which were thought to be primary bacterial pneumonias. This is perhaps not unexpected in view of the fact that practically all lungs examined were from pigs which were slaughtered for human consumption and which would normally be regarded as healthy.

(*d*) There were also 40 cases of pneumonia examined histologically on which no definite conclusions could be reached.

Results of Field Trial

Throughout the progress of the field trial, the method has been subject to constant modification and improvement as various difficulties have been encountered. Consequently, the results given below cannot be taken as indicative of those that can be expected using the present method.

The eradication of virus pneumonia was begun in the first few herds in April, 1952, that is just over three years prior to the time of writing, but the majority of herds joined the field trial in 1953 and 1954.

Coughing in Litters Farrowed in Isolation

The figures given below are based on the results in 22 herds where the presence of virus pneumonia was confirmed, and where the principal cause of coughing in piglets was believed to be virus pneumonia. The figures refer only to the first farrowing in isolation of the original stock after the eradication of virus pneumonia began.

A total of 510 sows and gilts were farrowed in isolation and of these 136 (26·6 per cent.) produced coughing

litters. Table I shows the distribution of these coughing litters within the different age groups.

TABLE I
INCIDENCE OF COUGHING LITTERS

Age of sow	Number of sows farrowed in isolation	Number of coughing litters	Percentage of coughing litters
Up to 2½ years	277	84	30
2½ to 3½ „	107	23	21
3½ to 4½ „	68	16	23
Over 4½ „	43	7	16
Unknown age	15	6	—
All ages ...	510	136	27

A proportion of these litters undoubtedly coughed from causes other than virus pneumonia but they were nevertheless discarded. In infected herds, then, the proportion of sows which are actually carriers of virus pneumonia is probably less than the above figures would indicate. It can be seen from the table that the older the sow the less likelihood there is of her producing a coughing litter.

The Incidence of Virus Pneumonia in the Lungs of Sows at Slaughter.—A total of 107 sows' lungs was examined at an abattoir where sows from the Southern half of England were killed. Altogether 39 (36 per cent.) of these lungs showed pneumonic lesions affecting the anterior lobes, lesions which macroscopically resembled those of virus pneumonia. It proved possible to obtain from the owners accurate information with regard to the ages of only 60 of these sows. Consequently, the number of lungs examined was too small to determine whether there was any correlation between the incidence of lesions and the age of the sows. It is of interest to note, however, that active-looking lesions were found in a sow seven years of age. This sample of 107 sows is not a random sample, since sows are frequently slaughtered because they produce unthrifty litters, one cause of which may be infection with virus pneumonia which is transmitted from the sow. Accordingly it might be expected that rather a high percentage of sows' lungs examined at slaughter would show lesions of virus pneumonia. This bias in the results is probably accentuated since, at the time these examinations were made, the pig population of the country was still increasing.

Present Status of Herds in the Field Trial

(*a*) Herds naturally free from V.P.P. (four) or herds established from naturally free herds (four) 8*
(*b*) Herds naturally free which became exposed to infection 2
(*c*) Herds which withdrew from the field trial ... 12
(*d*) Herds in the field trial that are not yet free ... 12
(*e*) Herds probably freed from V.P.P. but further supervision advisable 5
(*f*) Herds freed from V.P.P. 5

Total 44

* This does not include the virus pneumonia-free herd at the Department of Animal Pathology.

(*a*) *and* (*b*) *Herds Naturally Free from Virus Pneumonia*

Altogether six herds have been found which are naturally free from virus pneumonia. Two of these are no longer considered to be free from the disease (see below).

It is appreciated that in spite of the widespread distribution of the disease there must be many more herds than this that are naturally free from virus pneumonia. However, it is not a simple matter to establish that a particular herd is free from virus pneumonia according to the criteria described above. Difficulties have been encountered in certain pedigree herds in which few, if any, fattening stock normally are retained and therefore few lungs have been available for examination.

Two herds that were originally free from virus pneumonia but are no longer considered free, became exposed to possible infection because animals not known to be free from the disease were purchased. In one case a boar was bought from a herd which was known to be infected with virus pneumonia and as a result the free herd became infected. In the other case a gilt was purchased from a herd known to be infected. Although this animal was kept in isolation and there was no evidence of the spread of infection, the herd no longer fulfilled our criteria of freedom from infection.

(*c*) *Herds which Withdrew from the Field Trial*

The owners of seven herds became disheartened by the tedium and inconvenience caused by the method, particularly where the eradication programme interfered with the economics of the farm or where a high proportion of litters coughed. In four other herds it proved impossible to provide continually the necessary degree of isolation and supervision, while in the remaining herd the farmer was unable to continue because of other commitments.

(*d*) *Herds in the Field Trial that are not yet Free from Virus Pneumonia*

In seven herds that have recently joined the field trial progress is satisfactory, but sufficient time has not elapsed for them to become free.

In the remaining five herds, which have been in the trial from one to two years, progress has been reasonably satisfactory but there have been occasional unexplained infections of stock thought to be free from virus pneumonia. On some of these farms records have been unreliable and the control of pigs has been inadequate. Consequently, it has been difficult to obtain precise information, and therefore it has been impossible to ascertain whether the infection resulted from the simple failure to detect obviously infected pigs or from accidental contact between infected and free groups, or whether the causes were more subtle.

(*e*) *Herds probably Free from Virus Pneumonia but in which further Supervision is advisable*

In these herds as far as is known there are no animals infected with virus pneumonia on the farm. In some cases a sufficient length of time has not elapsed since the removal of the last infected animal to enable the criteria of freedom from virus pneumonia to be fulfilled.

Four of these five herds still contain a high proportion of the original sows, little reduction in the size of the herd having taken place during the eradication process.

(f) Herds Freed from Virus Pneumonia

The five herds in which eradication has been successful were, with one exception, either small herds or the V.P.P.-free herd was established from relatively small numbers of the original breeding herd. These herds have remained free from virus pneumonia since the time when they were considered to have fulfilled our criteria of freedom from this infection. This was 18 months ago in one instance, 12 months ago in two cases, six months ago in one case while the fifth herd has been free for three months.

Details of the eradication of virus pneumonia from a herd at a research institute (Barber, Braude, Mitchell & Betts, 1955) and from a commercial herd (Whittlestone & Betts, 1955) are given in the subsequent papers in this journal.

Discussion

The work reported in this paper shows that it is possible but not easy to eradicate virus pneumonia from individual farms.

One of the most important observations made in the course of this work was that once a herd had been declared free from virus pneumonia according to the criteria set out in this paper, it remained free.

It was found that perhaps the principal factor for success was the unflagging enthusiasm of the owner and an intelligent appreciation of the principles involved in the control plan. It is of interest to note that the herds in which successful eradication has been achieved belonged to owners who, on their own initiative, sought the help of the Department. On the other hand, when the field trial was envisaged several farmers were approached by us and they agreed to attempt eradication of virus pneumonia by this method, but on only one of these farms has progress been reasonably satisfactory.

One of the fundamental requirements of the method is the provision of accommodation for isolating pigs in such a way as to prevent transfer of airborne infection. Not only must this accommodation be sufficient to meet all possible demands during the course of the eradication process, but it must be completely "pigproof." It was found surprisingly difficult to fulfil this latter requirement. Another necessity is an efficient and precise system of recording results which is naturally dependent upon the enthusiastic co-operation, honesty and reliability of the pigmen.

Apart from the technical difficulties associated with the method it posed several other problems to the owner and sometimes caused dislocation of the economics and management of the farm. One of these problems was the acquisition of fresh breeding stock, particularly boars, since the number of herds believed to be free from virus pneumonia is small. In the case of pedigree herds there was a potential loss of sales resulting from the virtual prohibition on the exhibition of stock at Agricultural Shows. In some instances, however, this was compensated for by the demand for stock free from virus pneumonia.

An obvious conclusion from this field trial was that, as a basis for control of virus pneumonia, clinical diagnosis alone is totally inadequate. In individual pigs it is almost useless, and on a litter basis it can be regarded as little more than a screening test. The macroscopic examination of lungs *post mortem* was found, however, to be satisfactory in practice, particularly when adopted on a herd or litter basis. In almost all cases it was possible to establish a diagnosis by consideration of the clinical, epidemiological and *post-mortem* findings together.

The important question which arises is whether this method can be applied generally. Our experience has been too limited for us to come to a definite conclusion on this point. However, at present we are of the opinion that the method is too difficult and that there are too many pitfalls for it to be applied generally in the field. Nevertheless, we consider that veterinary surgeons and those farmers who have sufficient keenness and perseverance should be able to obtain satisfactory results. This method is of particular value in herds in which it is desired to retain valuable strains of pigs. If a moderate number of herds with good breeding stock could be freed from virus pneumonia, the stock from these herds could then replace the breeding stock on infected commercial farms. In many cases this would be the simplest method of dealing with virus pneumonia. Thus, the eradication of virus pneumonia on a large scale could be brought about by the two complementary methods of eradication and replacement.

The exacting criteria which must be fulfilled before a herd can justifiably be regarded to be free from virus pneumonia need to be stressed. Serious consequences to all concerned might follow unsubstantiated or unjustified claims that a herd is free.

Summary

Attempts have been made to eradicate virus pneumonia from 34 infected herds. To date, five of these herds are considered to have been freed, five others are probably free and progress has been satisfactory in a further 12 herds. In addition, four herds were found which were naturally free.

The control method used was based upon epidemiological considerations and consisted essentially of breaking the cycle of infection. The assumption was made that all pigs were infected until proved otherwise.

The method of eradication of virus pneumonia consisted of the following stages :—

1. Farrowing sows in isolation to ensure that any infection of the litter came only from the dam.

2. Determination of whether the litter was infected or not as judged by clinical examination, supplemented by *post-mortem* examination of one or more weaners per litter if necessary and possible. In this way carrier sows were detected.

3. Grouping of litters judged to be free from the disease but retaining the groups in isolation.

4. Examination at slaughter of lungs from a considerable proportion of the group as a further check when they reached market weight.

5. Replacement of the original breeding stock with the healthy progeny as soon as possible.

(Continued at foot of col. 1, page 690)

The Eradication of Virus Pneumonia from a Herd of Large White Pigs at a Research Station

BY

R. S. BARBER, R. BRAUDE and K. G. MITCHELL

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AND

ALAN O. BETTS

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IN the preceding paper, Betts, Whittlestone & Beveridge (1955) have described problems connected with the eradication of virus pneumonia (V.P.P.) from herds of pigs in this country. In this paper a successful attempt to eradicate the disease from a herd belonging to a research institute is described. The Shinfield herd was the first infected herd to be freed experimentally from virus pneumonia.

Respiratory disease has been endemic in the herd of pigs at Shinfield for several years (Braude, 1947). In 1952, as a result of collaborative work with the Department of Animal Pathology, Cambridge, the endemic condition was diagnosed as virus pneumonia. Examination of the lungs of 128 pigs from the fattening house showed that 110 (89 per cent.) had characteristic lesions of various degrees of severity. Practically all the fattening pigs in the Shinfield herd were coughing, but most of them showed no other symptoms of ill-health, and grew at a rate that was regarded as reasonable. A proportion of the affected pigs, however, developed a more acute condition, usually at a stage when they were 19 to 24 weeks old. These pigs refused their food, were reluctant to move, ceased growing and frequently lost weight for a period of 7 to 14 days. This condition appeared identical to that described by Betts (1952 & 1953) as a "secondary breakdown." The effect is well illustrated in Fig. 1 which gives the growth curves of a few selected animals from the Shinfield herd. In a herd kept primarily for research purposes, the variation in the performance of the experimental pigs arising from the random occurrence of these secondary breakdowns was disturbing (Barber, Braude, Kon & Mitchell, 1952) and necessitated the use of larger numbers of animals in any one experiment than would otherwise have been necessary. Although the prompt treatment with sulphonamide drugs of pigs suffering from secondary breakdowns (Braude, 1947) went some way to alleviating the more obvious effects of the disease, it by no means provided a satisfactory answer to the problem. Moreover, there was the possibility that the growth-rate and the efficiency of food utilisation of all the coughing pigs might be adversely affected irrespective of whether they later developed secondary breakdowns or not. It was indeed shown subsequently (Betts & Beveridge, 1953) that virus pneumonia did have a detrimental effect upon both growth-rate and the food conversion rate of affected pigs. It was decided, therefore, that an attempt should be made to eradicate the disease from the herd, and in June, 1952, the first steps were taken.

At this stage the knowledge of epidemiology of the disease was incomplete. It was considered likely, however, that a proportion of the sows in the herd, although having been infected earlier in life, had completely recovered, and were not acting as carriers of the disease. None of the sows was coughing.

During the late summer of 1952, 10 sows were removed from the communal paddock 10 days before they were due to farrow and placed individually in portable farrowing-huts with small paddocks attached. These huts were kept in a grass field some distance from the main piggery. The sows farrowed down in isolation in the huts and remained there with their litters until weaned at eight weeks. During this time a regular watch was made on the litters for any signs of coughing or sneezing. Periodically the litters were chased around the runs for several minutes, since this procedure usually causes pigs infected with virus pneumonia to start coughing. No other special precautions to isolate the animals were taken and the same pigmen looked after both the infected fattening pigs and the 10 sows and litters.

After weaning, one or two male pigs from five of the 10 litters were killed and their lungs examined. All were found to be free from lesions of virus pneumonia.

(*Continued from previous page*)

Clinical diagnosis alone, even on a group basis, proved unreliable but was of use as a screening test. Diagnosis by macroscopic examination of lungs at slaughter proved reliable in the great majority of cases, expecially after experience had been gained. Histological examination was helpful in some doubtful cases.

Herds from which virus pneumonia has been eradicated and those which were naturally free have remained free providing they have been kept closed, and there is reason to believe that they will remain so.

Acknowledgments. We are grateful to the farmers, veterinary surgeons, bacon factory staff and Ministry Officials, without whose co-operation and assistance this work would not have been possible.

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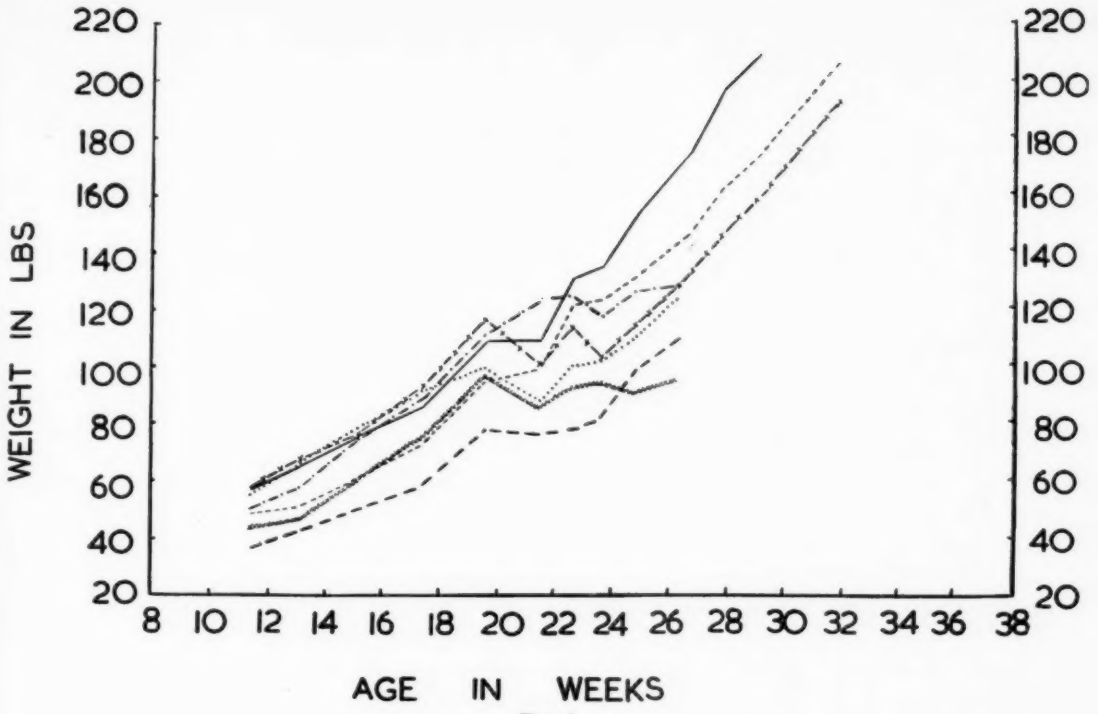

FIG. 1

The remaining five litters were not continued on the experiment, as it was considered that the 42 pigs in the five litters tested were sufficient at this stage.

The 42 pigs (17 males and 25 females) were then moved into two paddocks not previously grazed by pigs for several years, and well isolated from any other pigs.

Although it appeared from the results so far that the five dams of these litters were, in fact, not excreting the virus, it was decided to attempt to build up a nucleus of a V.P.P.-free breeding herd from their litters and not to use the five sows themselves any further for the work. The sows were, accordingly, no longer kept in isolation.

A close watch was kept on the 42 weaners during the growing-fattening period for signs of coughing, but all reached bacon weight without showing any symptoms of virus pneumonia. At this stage all the males and 12 of the females which were considered unsuitable for breeding were sent to slaughter. Again, the lungs of these pigs were examined and every one was found to be free from pneumonic lesions.

In the spring of 1953, in order to supplement numbers, six in-pig gilts and a young boar were purchased from two herds that prolonged examination by one of us (A. O. B.) had indicated were free from virus pneumonia. The gilts were housed in newly-purchased portable farrowing units which were run in the same field that contained the two isolation paddocks. The gilts farrowed during June and July, 1953, and again all litters were watched for any signs of coughing. No coughing occurred. Everything now pointed to the 13 remaining females, bred from within the Shinfield herd, being free from virus pneumonia and these were subsequently served by the purchased boar, the first litters being born from them in October, 1953.

At the same time a start was made in reducing the numbers in the original infected herd, by sending each sow away to slaughter immediately after her litter had been weaned. By the end of December, 1953, all the pigs in the infected herd had been disposed of. While the main piggery was unoccupied the opportunity was taken to clean and disinfect it and to improve the insulation and ventilation. Five weeks after the buildings had been emptied of stock, the first of the sows, gilts and weaners from the newly formed " clean " herd were brought inside.

Examination of lungs from all pigs sent to slaughter was continued and up to the present time (July, 1955) every one of the 109 lungs examined from clean pigs in the fattening house has been completely free from lesions of virus pneumonia.

Meanwhile, a further lot of females from suitable litters of both the home-bred and the six bought-in sows had been kept for breeding, and the breeding herd now consists of 45 to 50 sows and gilts. In addition, several boars were reared, some of which are used within the herd, while others have been sold.

It is not possible to make any strict comparison between the growth-rate and efficiency of food utilisation of the original infected pigs and the newly-formed herd. The environmental conditions in the fattening-house were changed and some different strains of pigs were introduced when the new herd was formed. Trouble with secondary breakdowns, however, has been com-

pletely eliminated and this, by itself, has improved the over-all performance of the fattening stock and increased very considerably the value of the herd for experimental purposes.

At present, therefore, it would appear that the method described above for the eradication of virus pneumonia from the Shinfield herd has been entirely successful. The herd has now been free for 18 months and it remains to be seen whether, as expected, this freedom from infection can be maintained indefinitely in what is now a completely self-contained herd.

The method adopted at Shinfield, namely that of building-up the healthy herd from litters which were free from virus pneumonia and discarding the dams, is discussed in the previous paper (Betts *et al.*, 1955) and is the most satisfactory way of eradicating the disease from an infected herd. By this method the dangers arising from a carrier sow shedding the virus intermittently are eliminated. The method has the disadvantages of the loss of time and capital caused by disposal of the breeding stock but, as was done at Shinfield, this can be minimised by purchasing additional breeding stock from other herds which have been proved free from the disease.

We wish to thank the Directors and Staff of Messrs. Henry Denny & Sons, Ltd., who provided facilities at their Reading Bacon Factory and thus made the examination of lungs possible.

Summary

Virus pneumonia was eradicated from a herd of pigs at a research station by a method based on epidemiological considerations. The whole process took 19 months and the herd has remained free since eradication was completed 18 months ago.

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SWINE FEVER

The swine fever situation in the six counties at present under restrictions (Cheshire, Shropshire, Staffordshire, Warwickshire, Worcestershire and a part of Lancashire) has shown continuing improvement. It has therefore been decided to remove the restrictions imposed earlier this year as from September 8th.

The effect of the new Order will be that the movement of pigs into, out of and within these six counties will no longer need to be licensed and the holding of store sales will again be permitted.

Copies of the Order revoking the Swine Fever (Infected Districts) Order, 1955, can be obtained from the Ministry at Hook Rise, Tolworth, Surbiton, Surrey.

The Eradication of Virus Pneumonia of Pigs from a Commercial Herd

BY

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THE control of virus pneumonia in the field has been discussed by Betts, Whittlestone & Beveridge (1955). A typical example of the application of the method used for eradicating the disease from a commercial pig herd is described in this paper ; it illustrates some of the difficulties which may be encountered.

This herd consisted of 23 sows of the Large White, Essex and Large Black breeds together with their followers. The animal accommodation comprised loose-boxes, range of stables and outhouses of an old country house. Some of the buildings had been converted to form a fattening-house with a communal feeding-passage ; thus airborne infection could spread readily. Apart from the construction of the fattening-house little modification to existing buildings had been effected. Sows were farrowed indoors and they were moved with their litters to outside runs four or five days later. There was no barrier to the spread of airborne infection between different groups of pigs whether they were housed indoors or outdoors.

The Department was approached by the owner's veterinary surgeon who had diagnosed virus pneumonia in this herd and the herd was first visited by us on June 1st, 1953. Many pigs on the farm were coughing, especially those in the fattening-house, and, in addition, store pigs and a number of suckling litters were coughing and were markedly unthrifty. Spasmodically, cases of acute pneumonia had occurred in the fattening pigs, particularly during the winter months. A number of these pigs had been slaughtered as casualties and there had also been a number of cases of frank and clinically obvious pneumonia in store pigs. The clinical picture was therefore typical of virus pneumonia and the presence of the disease was confirmed by subsequent examination of lungs *post mortem*.

The owner was concerned about the length of time pigs took to reach bacon weight and was therefore very anxious to attempt eradication of the disease. He was advised to farrow the sows in isolation and examine litters for evidence of coughing. Litters were to be weaned at eight weeks and all those that were free from coughing were to be kept in isolation from any untested stock.

By September, 1953, litters were being farrowed in isolation in fold units and in loose-boxes, while in-pig sows were allowed to run in groups of two or three in outdoor pens which had been provided with double fencing.

In October the fattening-house was divided by an airtight division into two parts, so that there was no possibility of airborne infection spreading from one half to the other. After the last infected pigs had been removed from one half, the pens of this half were thoroughly cleaned and 10 days later the first batch of pigs believed to be free from virus pneumonia was brought in.

A further visit was made to the farm in November, 1953. The checking of litters farrowed in isolation was progressing satisfactorily ; some litters were coughing markedly and were obviously unthrifty, while others were not coughing at all and were thriving.

By the beginning of February, 1954, all the stock in the infected half of the fattening-house had been sold. Ten days after the disposal of the last of the infected stock the partition dividing the two halves of the fattening-house was removed. But, at approximately the same time, pigs in the clean half of the fattening-house were heard to cough. A few days before this, routine examination of lungs had revealed the presence of pneumonia in pigs from the "clean" half of the fattening-house. The method by which this infection had been introduced into the fattening-house is uncertain. So far as was known, no infected pigs had escaped from their enclosures but such a happening may have accounted for the breakdown because the fattening-house had outside runs and contact with escaped pigs could have occurred. In the light of later experience on this farm, however, a more likely source of infection was from an infected litter, in which coughing had not been detected before weaning.

Fortunately, as a safety precaution, non-coughing pedigree litters which were intended to provide stock replacements, had been retained in separate isolation until they reached bacon weight. The lungs of the castrated male pigs from these litters were examined at slaughter and were found to be free from virus pneumonia. It was assumed, therefore, that the gilts were also free from the disease. Thus, the potential breeding-stock of the herd were not infected when the disease reappeared in the fattening-house.

After the presence of virus pneumonia had been established in the fattening-house, it was emptied completely at the beginning of April, 1954, and left empty for just over two weeks. It was then gradually re-stocked with pigs believed to be free from virus pneumonia and by August all the pens were full of pigs. Since this re-stocking there has been no further evidence of virus pneumonia.

A visit was paid to the farm during the re-stocking period in May, 1954. At this time a litter aged 10 weeks which had, by chance, been kept in one of the isolation pens for two weeks after weaning had just started to cough. Accordingly, this litter was retained in isolation and subsequent examination of lungs at slaughter confirmed the presence of virus pneumonia in the litter. The previous litter from this sow had remained free from coughing and examination of lungs from half these pigs had revealed no lesions of virus pneumonia.

At a further visit to the farm in July one suckling litter was found to be coughing. This litter was retained in strict isolation and the sow discarded. Examination at slaughter of the lungs from these pigs showed the presence of resolving lesions of pneumonia.

Starting in November, 1954, litters from sows which had previously produced two consecutive non-infected litters were no longer kept in individual isolation, but were allowed to run together in groups of up to five litters. On this and subsequent visits there has been no evidence whatsoever of infection with virus pneumonia.

Between June, 1954, and the time of writing (July, 1955) 257 pigs have been sent to slaughter from the fattening-house and the lungs of 175 of these have been examined. All 175 were free from lesions of virus pneumonia.

In the early stages of the eradication programme, the existing stock-boar was allowed to run with the sows which had not yet farrowed in isolation. Initially it was necessary to use the same boar for serving sows which had farrowed in isolation and were thought to be free from virus pneumonia. To minimise the risk of the transfer of infection from the boar to the sows various precautions were taken. In all instances the sows were served in the open air. Sometimes the sow was restrained in a modified service-crate, while in other cases the boar's head was covered with a sack soaked in disinfectant.

As soon as practicable, a young boar was selected from a litter which clinically was free from virus pneumonia. The litter-mates of this boar were killed at bacon-weight and their lungs examined. In this way it was confirmed that the litter was indeed free from virus pneumonia. The first home-bred boar was in use by the end of 1953.

Of the 23 sows and gilts in the herd at the beginning of the eradication programme, 11 are still retained in the herd ; eight sows were discarded because they produced coughing litters, while the remaining four were rejected for other reasons. No stock has been brought into the herd since the eradication of virus pneumonia began.

Nineteen months elapsed between the first visit and the time the herd was considered to be free from virus pneumonia. During this period nine visits were made and a total of 215 lungs were examined.

Summary

Virus pneumonia was successfully eradicated from a commercial herd of pigs, which comprised 23 sows and their followers, by a method which depended upon breaking the cycle of infection. The procedure took 19 months and the herd has remained free from this infection since eradication was completed six months ago.

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ARTIFICIAL INSEMINATION IN PIGS

The first litters to be born as a result of artificial insemination on a commercial scale have been farrowed in the area served by Dartington Hall Cattle Breeding Centre. Four females have farrowed to date, and the litter sizes are 13, 9, 8 and 11, giving an average size of just over 10. This is an encouraging beginning to a new field of operation in livestock improvement, and, with improved techniques, it should be possible to improve conception rates and provide a fully efficient service. Up to the time of writing, a total of 289 sows and gilts have been inseminated from a stud of four Large White boars.

Mr. Edward Wilkinson

The New President of the B.V.A.

AT the Annual General Meeting of the Association held last Tuesday, September 6th, Mr. Edward Wilkinson was unanimously and with acclaim elected President of the the British Veterinary Association for the year 1955-6. In thus raising a clinician to the Presidential Chair, the Association has followed its unwritten tradition that year by year Presidents are chosen from different branches of the profession. Thus four successive Presidents have respectively been a senior officer of the Animal Health Division, a practitioner who was also a part time lecturer, a university professor, and now a clinician. The Association may well count itself fortunate to be able to call upon the services of men of such diverse yet complementary qualities as those of Mr. Graham, Mr. Thomson, Professor Robertson, and Mr. Wilkinson.

The new President, born 1902, was the youngest son of a well-known Midlands farmer, Alderman John Wilkinson, whose Home Farm at Stapenhill, Burton-on-Trent, lay partly in Derbyshire and partly in Staffordshire. From his earliest years Mr. Wilkinson has known what it is to live in an atmosphere of public service, since his father was for 30 years a member of the County Borough Council, never being called upon to contest his seat.

Mr. Wilkinson was educated at Burton Grammar School, a foundation going back to the early 16th century, and at the Royal Veterinary College, from which he graduated M.R.C.V.S. in 1924.

With customary modesty he refers to his college career as being "not distinguished by the acquisition of medals or prizes, but fortunate in being contemporary with quite a number of those whose names are now household words in the profession." His many friends will reflect that in achieving the honour of the Presidency, Mr. Wilkinson's own name is, in its turn, a household word in the profession, and deservedly so.

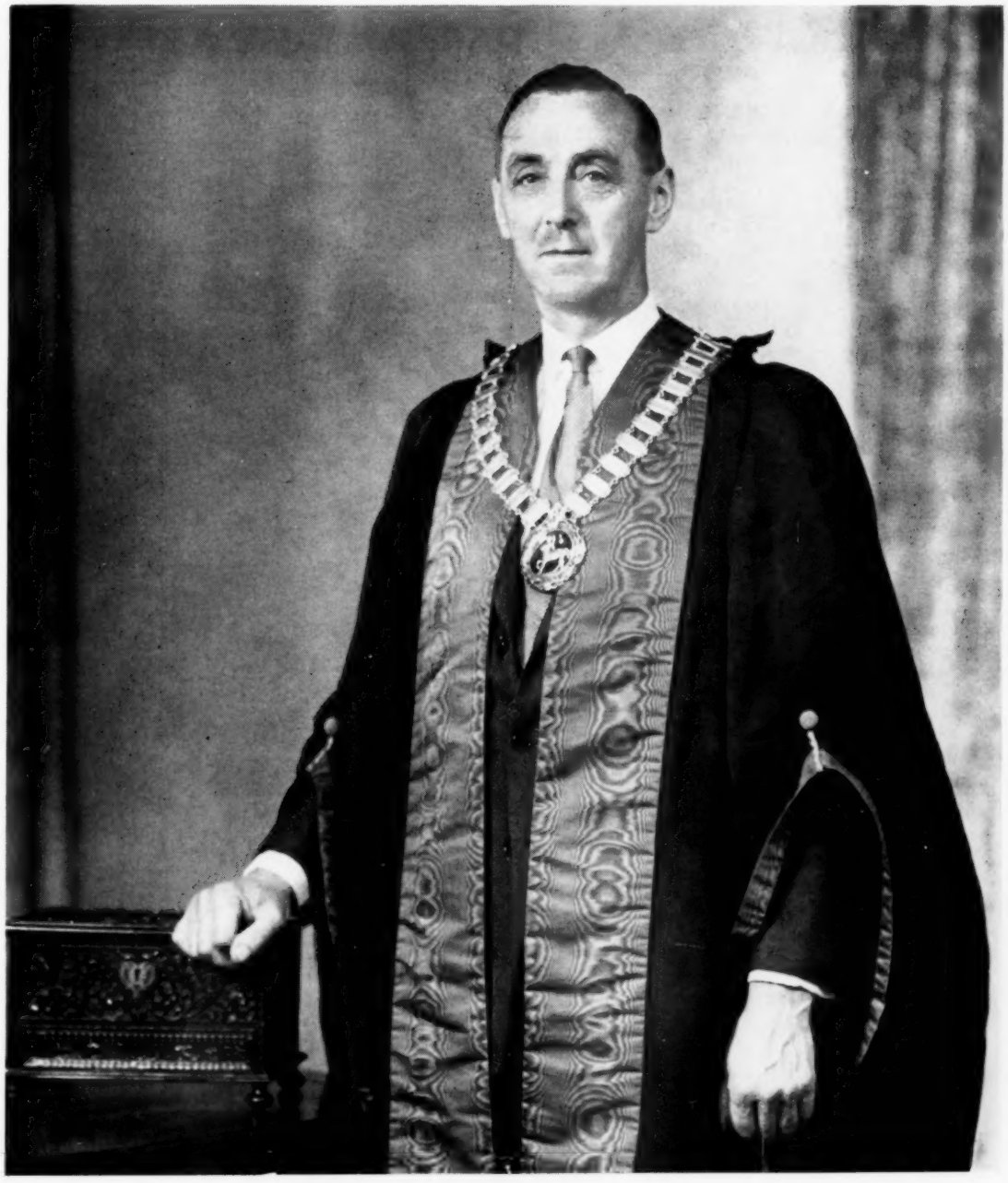
During his student years he was a keen sportsman, and played rugby football and cricket for his school and rugby for the London College. Among either his colleagues or his opponents in the battles against the Dublin College for the Wooldridge Cup were Dr. S. J. Edwards; Mr. A. D. J. Brennan, Deputy Chief Veterinary Officer; Professor Lamont; Mr. John Bruford; Mr. M. Crawford, new director of the Commonwealth Bureau; and Mr. S. F. J. Hodgman.

During College vacations he received his initiation into farming practice at the hands of the late Mr. Frank Aulton, M.R.C.V.S., of Tutbury, Staffs—a practitioner in the very best tradition of the old school. After qualifying he saw practice for short periods in Norfolk, Suffolk and at Witney, Oxfordshire, with his brother Ernest, who died at the tragically early age of 34 (in 1933). Mr. Wilkinson started in practice on his own account at Castle Donington, Derbyshire, in 1927. Three months later he married Miss Esmé Vincent, of Stretton, near Burton-on-Trent. He moved to Derby in 1933. His work included attendance at the L.M.S. Company's Derby horse hospital and depot (which drew its cases from some 2,000-odd work horses in the Midlands and North) and afforded a wonderful opportunity of gaining experience in heavy and light draught horse practice. In addition he carried on what he has called "a very mixed practice" for several years working single-handed, and building up an enviable reputation. He is to-day the principal of a four-man practice, his own main interest being in cattle, though he encourages his colleagues to specialise in other branches of mixed practice. The practice as a unit has collaborated for the past five or six years with the veterinary research staff of Messrs. Boots Pure Drug Co. Ltd. at Thurgarton, with particular reference to bovine mastitis.

The Council of the B.V.A. has enjoyed the benefit of Mr. Wilkinson's service since 1943. He has served on the General Purposes and Finance Committee, the Veterinary State Medicine and the Home Appointments Committees. It may be added that since his election last year as Junior Vice-President Mr. Wilkinson has also spared the time to attend a number of meetings of the Editorial Committee, where his advice, particularly about the clinical side of the journal, has been found to be of great value by his colleagues. Regarding his service on the Council, Mr. Wilkinson has said that he is "not a frequent intervener in Council debates except when I have something to say." Comment would appear to be superfluous!

He has for long played a notable part in the veterinary politics and policies of his own area, having been President of the East Midlands Division—while it was still known as the Derbyshire Division—in 1935 and again in 1945. He is this year's President of the Midland Counties Division, and thus will have the pleasure of seeing next year's Congress receiving the hospitality of his own Division. He is a member of the Council of the Society of Practising Veterinary Surgeons and has been the B.V.A. Divisional nominee on the Derbyshire Poultry and Milk Sub-committees of the C.A.E.C. since their formation. In addition he has been appointed official veterinary surgeon on many occasions to the Derbyshire Agricultural Society and to a number of local agricultural bodies.

The mere recital of these details of a successful career suggests only in part why this experienced clinician has been raised to the Presidency. It may be suggested that Mr. Wilkinson has three conspicuous assets for that office. He has a deep and sincere



MR. EDWARD WILKINSON, M.R.C.V.S.

President of the British Veterinary Association 1955-56

regard for the ideals of his profession and the place it should occupy in the life of the community. He is the epitome of robust good sense, and while more subtle minds are skirmishing with the details of a problem, he has gone straight to the heart of it. He is the most approachable of men, genial, sympathetic and unostentatious.

Not a few of the Presidential cares fall upon the shoulders of the President's lady, and Mrs. Wilkinson has not only taken a long and close interest in her husband's work, but has been, to use Mr. Wilkinson's own words: "the unpaid mainspring of the practice and is still expected to be on hand when everyone else has gone home." In wishing Mr. and Mrs. Wilkinson a very happy Presidential year, it is safe to say that the highest office of the Association will be in very wise, able and kindly hands.

Mr. E. R. CALLENDER
Junior Vice-President of the B.V.A.

BY unanimously electing Mr. E. R. Callender, O.B.E., Junior Vice-President and President elect of the Association, Council brings towards the forefront of its affairs one of the best known names in the profession.

Mr. Callender was born in Bishopton, County Durham and, like the new President of the B.V.A., comes of farming stock. His forebears have held land in South Durham for several generations. He was educated first in Stockton-on-Tees and then at the Royal (Dick) School of Veterinary Studies from 1919 to 1923, qualifying in July of that year. He was appointed immediately house surgeon at the Dick and remained in that position for a year.

He began general practice in Hertfordshire, passing from there into local authority service under the Durham County Council. He later joined the Ministry of Agriculture and Fisheries, rising to the rank of Superintending Veterinary Officer, a position he still holds. Mr. Callender was awarded the Order of the British Empire in 1953. He saw service in the first world war, firstly in the Artists Rifles and subsequently as an Infantry Subaltern in the Durham Light Infantry, serving in France from 1917 to 1918.

His interest in, and contribution to, the work of the B.V.A. is of long standing. He became President of the North of England Division in 1937, President of the Lancashire Veterinary Association in 1944 and Chairman of the Veterinary State Medicine Committee of the B.V.A. in 1953. Mr. Callender remains the very active and effective Chairman of that Committee.

In addition to his work in the Ministry, he was a member of the Board of Veterinary Studies at Liverpool for several years, and has been a member of the Faculty of Veterinary Science at the same University since 1952. All readers of THE RECORD will wish to congratulate Mr. Callender on his first accession to office, and will look forward to a notable Presidency during the year afterwards.

The Commercial Exhibition

An important adjunct to Congress is the exhibition of drugs, instruments, etc., undertaken by a number of commercial firms who supply their products to the profession. As on former occasions we publish below short descriptions of some of the exhibits shown on the various stands. This exhibition, which was opened by the president on Monday at 10.30 a.m., was presented in the Great Hall of Queen's University and continued throughout Congress week.

Arnold & Sons Ltd.

The stand of this well-known firm of veterinary instrument manufacturers featured new products of many different types, amongst which are the Penicillin Teat Bougie, which is becoming increasingly popular. It is hoped in the future to improve the pack now that the market seems assured.

Another instrument which is gathering popularity both in this country and overseas, is the Arnold Patented Effiminator used for inducing sterility in the cow. A complete report and method of use was printed in THE VETERINARY RECORD on March 5th, 1955.

In artificial insemination, Arnolds have once again come to the fore. The Boar A.V. and Pulsator together with the special inseminating pipette and inflator have been brought to perfection in the light of information kindly supplied from many sources.

Another new experimental instrument to this country is the Uterine Cervical Biopsy for detection of *Vibrio foetus*. Here again the instrument has very definite signs of becoming a valuable asset to the veterinary surgeon's equipment.

The new branding paste "Colbran" has proved a most efficient means of identifying cattle, particularly where large herds are maintained.

Another item which, although not new, is the "Analgic Needle." This is widely known and used both on the home market and overseas.

In addition to Arnolds branches at Edinburgh, York and Dublin, we would like to draw attention of veterinary surgeons to the new branches at: 4, Northumberland Buildings, Queen Square, Bath, and 183, Woolwich Street, Guelph, Ontario, Canada.

Baillière, Tindall & Cox Ltd.

A collection of veterinary books from all publishers was shown on the Baillière, Tindall and Cox stand. This included all the Baillière standard veterinary textbooks. Among these were some which have been published since the last Veterinary Association exhibition. *Fertility and Infertility in the Domestic Animals: Aetiology, Diagnosis and Treatment*, by J. A. Laing, PH.D., B.SC., M.R.C.V.S., Senior Lecturer in Veterinary Medicine, University of Bristol, is a book of the highest importance. The results of the large amount of research that has been done of recent years have here been brought together and summarised with older knowledge, and form the most complete and up to date survey that has so far been made available. The fourth edition of *Gaiger and Davies' Veterinary Pathology and Bacteriology* is a book which no veterinary surgeon can afford to dispense with. It has everything to commend it—accuracy, conciseness and appropriate illustrations. The fourth edition of *Anthony's Diseases of the Pig* brings right up to date this unique reference book on pig diseases. Information regarding forthcoming books included an inspection copy of *Dukes' Physiology of Domestic Animals*, seventh edition and a prospectus of the fourth edition of *Mönnig's Veterinary Helminthology and Entomology*, revised and brought up to date by Geoffrey Lapage, M.A., M.D., M.SC., Lecturer in Animal Pathology, University of Cambridge. Prospectuses were also available for two important new books to be published shortly: *Veterinary Ophthalmology* by R. H. Smythe M.R.C.V.S. which is divided into two parts, the first of which deals with the anatomy and physiology of the eyes of many animals: the second is concerned with treatment and includes well illustrated descriptions of modern surgical techniques. *Veterinary Clinical Diagnosis* by Professor David Wirth, edited and translated by Annie I. Littlejohn, B.SC.(LIV.), M.R.C.V.S. is a most useful book setting out the cardinal principles of clinical diagnosis, very fully illustrated.

Bayer Products, Ltd.

The exhibit stressed the work carried out at the Bayer Biological and Research Institute in developing and producing new vaccines and sera. "Aggrecovac," a polyvalent *coli* vaccine incorporating specially selected strains, is the latest product to be made available to the profession. Reports from practising veterinary surgeons on its value, particularly against febrile agalactia in sows and scours in piglets, confirm the apt choice of the strains of *coli* from which it is prepared. Other biological advances include the improved alum-precipitated preparations.

Of the chemotherapeutics exhibited, "Roccal" is perhaps the best known. Its value as an intiseptic is reinforced by its power as a deodorant. "Sulfomyl," is a new and improved sulphonamide of particular value in eye infections, and is available as ointment or drops. "Sulfomyl" is absolutely painless in application to the eye, active in the presence of pus, and bactericidal to a wide range of organisms.

Perhaps the Company's most outstanding chemotherapeutic introduction this year is the new local anaesthetic "Ravocaine," evolved after research into over nine hundred formulations. "Ravocaine" provides anaesthesia of almost immediate onset and optimum duration; it is non-toxic and facilitates rapid return to the most suitable conditions for healing by first intention. It has been found most satisfactory under field conditions, particularly for dehorning.

Brookwick, Ward & Company

Exhibited Veterinary Instruments and Teaching Models manufactured by Messrs. H. Hauptner, Solingen.

Following on the interest aroused by the anatomical model of a cow, shown last year at Torquay, the manufacturers are displaying a model of a pig, which takes apart into 10 sections and shows the greatest anatomical detail, a demonstration model showing the skeletal structure of a pig and a plastic relief model, also of a pig. Parts of a cow's body depicted in natural size and taking apart into sections, which will be shown, are the ruminant stomach and udder. Two disease sets—cattle and fowl—complete this section.

A small operating table suitable for guinea pigs, rabbits or small cats and a larger table for dogs are of interest to the small animal surgeon. A rat cage, one of several types made for experimental control, is a practical contribution to the research worker's requirements.

For the research chemist the multi-dose syringe with metal piston can prove a speedy and accurate measuring device. The opportunity was taken to introduce to the profession, the new "Electrapid" electric clipper for cattle and horses.

A large range of Hauptner syringes and needles, together with other selected instruments, completes the exhibit.

Instrument and model catalogues together with technical articles, in English on the use of some of the newer instruments are now freely available.

Burroughs Wellcome & Co. (The Wellcome Foundation Ltd.)

Among the exhibits on the Burroughs Wellcome & Co. stand at this year's Congress Exhibition were a number of new products recently introduced by the Company. Of particular interest to the small animal practitioner is "Aerosporin" Compound Ointment, an antibiotic skin dressing for the treatment of infected wounds, and infections of the ear and eye. The wide antibacterial activity of polymyxin B and bacitracin, two of the components of this versatile ointment is effectively illustrated. "Temadex" a compound ointment for the treatment of parasitic skin diseases in dogs is featured alongside. Three acaricides and a fungicide are incorporated in the formula of this compound ointment whose action and uses are described.

"Epivax," the established single-injection prophylactic against distemper and hard pad disease, needs no introduction. Since its advent two years ago it has gained an outstanding reputation in canine practice as the most efficient and reliable prophylactic in the field. "Gamahtine," an Immune Canine Gamma Globulin prepared at The Canine Research Station of The Animal Health Trust, and distributed by Burroughs Wellcome & Co., was also featured. It affords a passive immunity, lasting about three weeks, against distemper, hard pad disease and virus hepatitis.

In the large animal field, Penicillin and Dihydrostreptomycin Intramammary Injection, a combination of 300,000 units procaine penicillin G and 250,000 units dihydrostreptomycin sulphate, is of interest. In these high concentrations, adequate levels of the antibiotics can be maintained for a sufficient time to eradicate not only the common types of bacteria met in bovine mastitis but also organisms sensitive only to large concentrations of the antibiotics.

As in past years, a special Folder prepared by Burroughs Wellcome & Co. for the Congress, has been sent in advance to all members of the veterinary profession. The outer cover illustrates a veterinary legend of bygone days. Inside are descriptions of places of interest in and around Belfast.

Cooper, McDougall & Robertson, Ltd.

The stand of Messrs. Cooper, McDougall & Robertson, Ltd., Berkhamsted, at this year's Veterinary Congress is No. 1, and was situated in the entrance hall of the Exhibition.

Latest additions to the Cooper range of veterinary products were displayed, including P.H.C.C., a combined phenothiazine/hexachlorethane dispersible powder with copper and cobalt, for the treatment of liver fluke and winter worms. Two separate formulations are available, one for sheep the other for calves and cattle, since the ratios of the anthelmintic and mineral requirements of sheep and cattle differ widely and cannot be met successfully with a single formulation.

Other anthelmintics in the exhibit included "Coopane," a piperazine compound for the control of ascarids and some other nematodes in domestic animals; a nicotine/copper sulphate concentrated drench marketed under the title of N.C. (Concentrate), and a new mineralised form of Cooper's Phenothiazine Dispersible powder, containing copper and cobalt.

Certain aureomycin products of the Lederle Laboratories, for which Messrs. Cooper, McDougall & Robertson act as distributors, were also shown.

Evans Medical Supplies Ltd.

Evans Medical Supplies Ltd. displayed a selection of sera, vaccines and veterinary specialities. Large scale reproductions of the Cave Paintings featured in their recent advertisements formed a pictorial background to the stand. An illustrated brochure of these paintings was presented to interested members at the Congress. Special attention was given to the following products:

Nobecutane.—The sterile, plastic, surgical wound dressing which is permeable to aqueous skin excretions but not to bacteria. A demonstration cabinet enabled visitors to test out the spray container. Available as a sterile product in spray containers of 300 ml. and bottles of 250 ml. and 50 ml.

Fotogel.—A one in one suspension of Barium Sulphate B. Vet. C. for radiological use which is specially protected against precipitation or flocculation and is not affected by acid or alkaline digestive secretions. A plastic container with strength-end delivery nozzle designed for the easy administration of "Fotogel" to small animals was shown. Supplied in plastic containers of 225 ml. and bottles of 2 litres.

Rondase.—A freeze dried preparation of hyaluronidase, the spreading factor. "Rondase" is of the greatest use when used with local anaesthetics in the dehorning operation and paravertebral anaesthesia. "Rondase" is offered in vials of three mg.

Other new speciality products included:

Trypure.—Purified trypsin for the digestion of necrotic tissue in wounds, haematomata and sites of chronic inflammation. Supplied as vials of 50 mg. with diluting fluid.

Tebalm.—A teat and udder ointment containing 0·5 per cent. of Cetrimide B.P. Containers of 500 g.

Ringworm Ointment.—Containing zinc undecylenate. Jars of 50 g.

Nemazine.—Phenothiazine fortified with copper and cobalt. Tins of 1 and 7 lb.

W. Gimber & Sons, Ltd.

"Stand No. 16—that of W. Gimber & Sons, Ltd., 2, Queen's Road, London, S.E.15, exhibited veterinary instruments, equipment and sundries.

Among many items of special interest was a new type of parturition gown together with special rubber footwear suited to veterinary practice.

A wide range of Hauptner made instruments was displayed including a small bitch speculum, and blendingers forceps, the latter being of particular use in the rumenotomy and caesarean operations.

The new veterinary auriscope, will be shown complete with ophthalmascope and crocodile pattern aural forcep.

Mr. W. S. Gimber was in attendance, and it is hoped that the stand proved interesting to all those who visited the exhibition.

Glaxo Laboratories Ltd.

At the Glaxo stand the emphasis was on the new approach to the prevention of mastitis.

It had long been evident that if the incidence of mastitis were to be reduced, a new approach with the accent on prevention was necessary. In particular the two black spots of mastitis—the drying off period and the first two weeks of calving—lend themselves to prophylactic treatment.

"Procaine Penicillin Cerate" '300' Glaxo which has been demonstrated to give a therapeutic level of penicillin for seven days and a prophylactic level for at least 14 days is being successfully used for this prophylactic treatment.

"Streptopen Cerate" containing both streptomycin and penicillin has its place where mixed infections are likely. To "spearhead" the attack, Glaxo have introduced a new cerate tube, which may be seen on the stand.

The underlying theme of the wide range of penicillin exhibits was that Glaxo have a specialised preparation to meet all needs.

For all penicillin sensitive infections "Crystapen," the injectable and oral soluble penicillin, was offered.

For prolonged action there was "Mylipen," an aqueous injection of procaine penicillin, for ultra-prolonged action "Benapen" (Benethamine penicillin) and the "lung selective" penicillin "Estopen" (penethamate Hydriodide).

Also demonstrated was the combined effect of penicillin and streptomycin. By reinforcing each other's striking power the combined antibiotics can bring under effective attack organisms not particularly responsive to streptomycin or penicillin alone.

The new convenient and economic pack of 30 cc stabilised injection of "Dimycin" was prominently featured.

"Streptovex," which was proven on Irish soil as an effective and economical treatment for scours in cows and piglets was given prominence together with "Streptopen Uterine Tablets" which provide two bactericidal antibiotics in a convenient form for uterine treatment.

Another feature was "Intradex" blood plasma substitute, now widely used by veterinary surgeons in the treatment and prophylaxis of shock in surgery and disease.

New editions of the Glaxo veterinary guides to penicillin and streptomycin had been re-written and were available, together with a companion booklet on the use of "Intradex."

C. J. Hewlett & Son, Ltd.

The exhibit comprised a selected range of veterinary specialities including the following :—

"Ascarine" Brand (Piperazine Citrate) for the treatment of ascarid and hookworm infestation in cats, dogs, pigs and poultry.

Calcium Boro-Gluconate P., P.M., and P.M.D., for the treatment of milk fever.

Cortrophin Z (Organon) Long-acting A.C.T.H. Duo-Phos, containing 20 per cent. dextrose with double phosphates for hypophosphataemia and acetonaemia.

I.P.S. brand penicillin Sulphadimidine for cases of bovine mastitis where the infecting organisms are mixed streptococci complicated by a secondary pathogen (except *C. pyogenes*).

Probactol, containing phthalylsulphacetamide and sulphadimidine for white scour in calves, swine dysentery, diarrhoeas and dysenteries of the cat and dog involving *B. Coli* and for secondary enteric infections in canine distemper.

Tympasil, containing methyl silicone, aliphatic hydrocarbons, and Ol. pini sylvest., a modern treatment for frothy bloat by means of surface acting agents.

Terramycin veterinary. C. J. Hewlett & Son, Ltd. as sole distributors for Messrs. Pfizer, Ltd. in the United Kingdom and Republic of Ireland, will be arranging for representation at Messrs. Pfizer's stand adjoining.

A range of Veterinary instruments was displayed including the McLintock Preset Syringe for Tuberculin Testing, the McLintock Automatic Injector for multiple injections which may be used as a pump for intra-uterine irrigation, or as a drenching gun, and the instruments for the McLintock Technique in Rumenotomy.

I.C. (P) Ltd.

Imperial Chemical (Pharmaceuticals) Ltd., Fulshaw Hall, Wilmslow, Manchester, featured a number of recently introduced products amongst their full range of well-known veterinary specialities.

I.C.I. udder wash, which has just become available, contains the new antiseptic "Hibitane." This product is intended for use in the hygienic control of mastitis and is recommended especially when dealing with actual outbreaks. "Hibitane" pessaries which were introduced just 12 months ago have proved most effective in the treatment of metritis and are becoming an increasingly popular remedy. Many veterinary surgeons have also found them equally useful in the routine prophylaxis of uterine infections. The use of "Cetavlon" Concentrate M.C. continues to be recommended for routine prophylactic measures against mastitis and is a cheap and efficient preparation for everyday use by the farmer.

"Anavenol" anaesthetic for large animals, though not an entirely new-comer to the range is now presented as a clear solution. This product undoubtedly represents an advance in anaesthesia and restraint.

"Mysoline," a safe anticonvulsant for small animals, has proved to be particularly useful in canine hysteria, true epilepsy and in controlling the nervous complications associated with canine distemper and "hard pad."

Other products displayed include "Avloprocil" A.S., a convenient procaine penicillin preparation in the form of an aqueous suspension, ready for injection, "Sulphamezathine," now established as the safest and best sulphonamide for routine use, and "Kemithal" Sodium, a safe and reliable barbiturate anaesthetic which has a number of noteworthy advantages over similar intravenous drugs that may be used in small animal practice.

Pfizer Ltd.

The Pfizer stand was situated next to that of the distributor for Terramycin Veterinary Preparations—C. J. Hewlett & Son Ltd. The stand's main theme featured the wide application of the broad-spectrum antibiotic "Terramycin" in veterinary medicine and conveyed in graphic form the over-all effectiveness of "Terramycin" dosage forms in each aspect of veterinary practice.

The central display was an illuminated comparative antibiotic Spectrum Chart. By means of a switch-gear mechanism this automatic Spectrum Chart illustrated the scope of "Terramycin" in veterinary medicine.

The various dosage forms of "Terramycin" were shown and a selection of their indications given. Stand space precluded the pictorial representation of all the applications of "Terramycin," so one main and topical aspect was selected for emphasis—Mastitis and Terramycin Intramammary Animal Formula.

Pfizer personnel were in attendance on the stand during all the published hours of opening. A member of the Pfizer Veterinary Advisory Service attended for two hours each morning and again for two hours each afternoon to answer specific technical enquiries.

Pharmaceutical Specialities (May & Baker) Ltd.

The following recent introductions were shown :

"*Largactil*" *brand chlorpromazine hydrochloride*, as now produced for veterinary purposes. Its central sedative action is of value in canine hysteria, phantom pregnancy and nymphomania, and in vomiting from various causes ; it enhances the action of analgesics and is extremely valuable in the relief of

pain ; it has also a marked antipruritic action. Premedication with " Largactil " potentiates the action of anaesthetic agents with consequent reduction in the amounts required.

Penicillin Intramammary Injection, 300,000 i.u. Collapsible tubes containing this dosage are now available in addition to the existing tubes of 50,000 and 100,000 i.u.

Thiasolucin Intramammary Injection provides a new treatment for penicillin-resistant mastitis. This soluble derivative of sulphathiazole has been found effective in staphylococcal, *Str. dysgalactiae* and *Str. uberis* mastitis.

Pentamidine Isethionate Solution is indicated in bovine redwater and field trials have shown that a single injection gives satisfactory results in a high proportion of cases.

" *Otoryl* " *brand Ear Drops* contain dibromopropamidine, promethazine and gamma benzene hexachloride and are an effective form of treatment for otitis media in dogs and cats.

A representative range of established products were also exhibited including the well-known antihistaminics " Anthisan," " Phenergan " and " Dibrogan," and the sulphonamide products " Trinamide " and " Compron."

There was an exhibit showing the uses of X-ray contrast media in veterinary radiography.

Reckitt & Colman, Ltd.

Dettol Antiseptic.—Dettol is efficient against a wide range of bacteria and its activity is well maintained in the presence of organic matter. It is well tolerated on the skin and mucous membranes. It is non-poisonous and non-staining.

Dettol Obstetric Cream is the equivalent bactericidally of a 30 per cent. solution of Dettol. It is used for parturition purposes and for the hands and arms of the practitioner. It is water soluble and is a useful deodorant.

Instrument Dettol.—For instrument disinfection only. Instrument Dettol forms a clear solution in soft or distilled water. It is rapidly bactericidal to a wide range of pathogenic micro-organisms.

Dettol Ointment incorporates the active principle of Dettol in a soothing and emollient base.

Surgical Dettol (Blue and Orange).—is intended for preoperative skin disinfection. It is rapidly bactericidal, virtual disinfection of the skin being achieved within one minute.

Disprin forms calcium acetylsalicylate in water. Disprin should be given as a draught, whenever aspirin is indicated. As it is soluble it is less likely to cause irritation of the gastric mucosa. Given as a draught it is palatable.

Codis.—A tablet providing soluble aspirin together with codeine phosphate and phenacetin. The tablet disperses rapidly in water and is indicated in all those conditions for which Tab. Codein. Co. would normally be prescribed, with the added advantage of better toleration and rapid absorption.

Ward Blenkinsop & Co., Ltd.

The Company showed the Penotrane series of preparations for the treatment of vaginitis, metritis, cervicitis and mastitis. Also for the treatment of ringworm, orf and various dermatoses:

Noracin, a blood coagulant,

Viacutan cream and Viacutan lotion,

Penoflex, a plastic dressing containing Penotrane,

Sterathal Suspension for the treatment of intestinal infections,

Steravite eye ointment and a number of other products of interest to the veterinary profession.

Willington Medicals Ltd.

Stand No. 2 featured this Company's products and emphasis was on " To the Profession only," with a specialised service for dispensing packs including veterinarians' own named and addressed labels.

Several recent ethical products were displayed including those of Consolidated Chemicals Ltd.—with "Letlac "—oxytocic principal, and " Actos "—A.C.T.H. for small and large animals, in the forefront.

" Letlac " has a very wide use in practice including udder evacuation in mastitis, to accelerate parturition, dystocia due to uterine inertia, postpartum evacuation of uterine debris, control of uterine haemorrhage following caeserean section, retained placenta, pyometra and chronic endometritis, and to stimulate milk let-down in agalactia of heifers and cows.

The use of " Actos "—A.C.T.H. has been extended to cover small animals with considerable success—particularly in the treatment of nervous diseases in dogs, distemper syndrome, arthritic affections, posterior paralysis, Chorea, nephritis, hodgkin's disease and certain convulsive states.

Attention was also centred on the comprehensive service of Willington Medicals Ltd.—instanced by a complete range of sera and vaccines, proprietary products, preparations of the British Veterinary Codex, bulk drugs and chemicals and surgical sundries. A revised catalogue was also available and the principals, technical staff and representatives were glad to meet old and new friends.

Willows Francis Ltd.

The complex and comprehensive range of the merchandise involved in our service to the veterinary profession made it impossible to display more than a token selection of our products.

The focal point in our display was Xylotox Veterinary—the veterinary local anaesthetic—and " Venagmin "—our parenteral haemostat : two products of comparatively recent introduction which have enjoyed an excellent reception from the profession.

Of particular interest was the introductory display of several new products—two being of interest and application in small-animal work, *viz.*, " Euthesate "—a stabilised barbiturate for economical and humane euthanasia, and " Xydermo," a product of broad therapeutic application in the treatment of non-specific dermatoses, ringworm and fungicidal infection in dogs and cats.

Vesagex Cream.—A reformulation and presentation of our " Cetrimide " product—with enhanced detergent and bactericidal properties and much wider application, *e.g.*, emergency " scrub-up " in field operations—lubricant in vaginal exploration, pre-operative sterilisation, cleansing of hands and udders prior to intramammary treatments and as a general household dressing for cuts, burns, wounds, etc.

Other well-tried products which Willows were proud to be the first to offer to the profession are " Rumoxane "—polymerised methyl silicone therapy for bloat ; " Kebovel "—propionate/acetate product for basic and supplementary treatment of Acetonaemia : " Sulphentrin "—mixed sulpha drug therapy in suspension for calf scours, dysentery and enteric infections.

The customary display of instruments, biologics and standard Willows products was also included.

Finally we had on view two products from the well-known German manufacturer Bengen of Hanover which are both novel and of prime interest. (*a*) Self-expanding teat dilator which is much in advance of the normal teat plug, and (*b*) a new synthetic surgical suture in 50-metre balls attractively and aseptically packed.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, AGRICULTURE SECTION

Dr. John Hammond, of the Ministry of Agriculture Advisory Service, spoke to the agriculture section at the British Association meetings at Bristol on Monday, September 5th, on the subject of artificial insemination. He said that new scientific methods should make it possible to shorten the interval between generations in cattle to one year; fertility of bulls and rams had been greatly increased and (as mentioned on page 693) the artificial insemination of pigs was now a practical possibility. Injections of a new type could produce lambs in the autumn as well as in the spring, and twins and triplets could be obtained in beef cattle.

Mr. A. F. Holt, B.SC., M.R.C.V.S., of Dartington Hall Cattle Breeding Centre pointed out that whilst temperature, sunlight and rainfall all have a bearing on the fertility of cattle, altitude did not seem to have much effect.

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News and Comment

THE NORTH OF IRELAND DIVISION AT HOME

Traditionally, Congress began on a note of hospitality when the host Division welcomed the delegates and visitors at an "At Home" held in the Grand Central Hotel last Sunday evening. Professor and Mrs. Lamont received well over 400 guests, including the President of the Royal College of Veterinary Surgeons.

The rooms were thronged, and all the geniality which at once manifests itself when the profession gets together was fully in evidence. The volume of conversation equalled the sound of Lars Porsena's 400 trumpets, and what orchestral players know as the *tutti* smote against the ceiling. Any doubts the organisers may have had about the success of this initial gathering were dispelled within a few minutes. Northern Irish hospitality was upon the throne; and by the time these words are read the President's advice (received with acclaim) to fast at middle day in expectation of each evening's enjoyment to come will have amply proved its wisdom!

When Congress met in Belfast 20 years ago the occasion was memorable. The North of Ireland Division's opening function bade fair to make the 1955 Congress still more so.

DELEGATES TO CONGRESS

As in other years, the Association had the privilege of receiving a large number of special delegates at the Congress. The full list is as follows:—

Government Departments

Ministry of Agriculture, Fisheries and Food
Mr. J. N. Ritchie, C.B., Chief Veterinary Officer; and Mr. A. D. J. Brennan, C.B.E., Deputy Chief Veterinary Officer.

Ministry of Health
Dr. J. M. Ross, Senior Medical Officer.

Department of Agriculture for Scotland
Department of Health for Scotland
Mr. James Reid, Superintending Veterinary Officer.

Ministry of Agriculture, Northern Ireland
Mr. H. L. McConnell, Chief Veterinary Officer; Mr. D. C. Greene, Deputy Chief Veterinary Officer; Professor H. G. Lamont, O.B.E., Director, Veterinary Research, and Dr. W. R. Kerr.

Colonial Office
Mr. R. J. Simmons, C.M.G., C.B.E.

Ministry of Health and Local Government, Northern Ireland
Dr. A. T. Elder, Deputy Chief Medical Officer.

Department of Agriculture, Dublin
Mr. P. Harnett, Deputy Director, Veterinary Services, Professor J. A. Nicholson, Principal, Veterinary College, Mr. J. F. Timoney, Director, Veterinary Research, Mr. P. Crowley, Mr. D. F. McCarthy, Mr. J. Nowlan, Professor P. A. McGeady, Mr. M. G. Hynes, and Dr. L. B. O'Moore.

R.A.V.C.
Colonel L. W. Coulden, and Major J. H. Wilkins.

Overseas Representatives

American Veterinary Medical Association
Colonel Norbert A. Lasher, and Dr. C. K. Mingle.

Australia, High Commissioner
Australian Veterinary Association
Mr. L. N. Thornton, Commonwealth Veterinary Officer.

Canada, Department of Agriculture, Ottawa
Dr. R. J. McClenaghan, Chief Veterinarian (Contagious Diseases).

Canada, High Commissioner
Sir Frank Ware, C.I.E.

New Zealand Veterinary Association
Mr. W. M. Webster.

Norwegian Veterinary Association
Dr. Helge Baggerud.

Holland
Mr. E. de Nooy, Vice-President, Dutch Veterinary Association.

Iraq Veterinary Association
Major C. R. Chadwick, O.B.E.

Kenya Veterinary Association
Mr. J. W. Macaulay.

World Health Organisation
Food and Agriculture Organisation
Mr. N. R. Reid, M.B.E.

Yugoslavia, Union of Veterinary Associations
Mr. R. Vujovic, Vice-President.

University of Belgrade, Veterinary Faculty
Professor J. M. Dimic.

Local Authorities

City of Birmingham
Mr. C. G. Allen.

City of Cardiff
Councillor W. Groves, Deputy Lord Mayor, and Mr. J. H. M. Hughes.

Corporation of Glasgow
Bailie George Robertson, and Mr. S. G. Abbott, M.B.E.

Corporation of London
Mr. E. F. McCleery.

City of Manchester
Councillor Hinderer, Councillor Murray, Councillor Siddall, Councillor Bailey, and Mr. D. E. Orr.

City of Portsmouth
Mr. R. Scourlar.

Borough of Preston
Mr. F. J. Proctor.

Corporation of Dublin
Mr. J. M. Murphy.

The Universities

Edinburgh
Professor W. M. Mitchell, Director of Veterinary Education, Royal (Dick) School of Veterinary Studies.

Students' Union

Liverpool—Veterinary Society
Mr. S. Barrett.

Dublin—Veterinary Students' Union
Mr. P. J. Hartigan.

Edinburgh—Veterinary Students' Committee
Mr. P. Lamont.

Glasgow—Students' Union Society
Mr. R. G. Dalton.

London—Students' Union Society
Mr. K. C. Barnett.

Other Organisations

Agricultural Research Council
Dr. R. Scarisbrick.

Milk Marketing Board
Mr. G. F. Smith, Chief Veterinary Officer.

Visitors

Dr. Van den Born (Holland), Professor L. C. Moss (U.S.A.), Professor R. N. Hazarika (Assam Veterinary College).

DR. FRANK W. SCHOFIELD RETIRES

Dr. Frank W. Schofield has been associated with the Ontario Veterinary College, Canada, since 1910, and a dinner was held recently in Guelph to honour the occasion of his retirement from the teaching staff. Dr. Schofield is at present in Europe, and it is understood that after a short holiday he hopes to go to Korea to carry on his work there.

Dr. Schofield was born in England and received his elementary and grammar school education in this country, emigrating to Canada in 1905. He later entered the Ontario Veterinary College and graduated in 1910. Soon after he joined the College staff as a part-time instructor and served under Dr. John Amyot who was at that time the head of the Public Health Laboratories of Ontario. In 1916, Dr. Schofield was commissioned to go to Korea to teach bacteriology and hygiene at a mission school in Seoul, and he worked in this institution for four years. His presence then became undesirable to the Japanese authorities and he was forced to return to Canada. In 1921, he again became associated with the Ontario Veterinary College, an association which has lasted up until lately. During this time he was an active teacher and conducted a considerable amount of valuable research work, his most outstanding contribution probably being the solution of a new condition which had arisen in connection with certain properties of sweet clover.

Dr. Schofield has been the recipient of many honours. The faculty of the Ludwig-Maximilian University, Munich, Germany, conferred upon him its Doctorate of Veterinary Medicine, and the College of Veterinary Surgeons of the Province of Quebec awarded him its St. Eloi Medal. He was also the recipient of the highest honour of the American Veterinary Medical Association.

In the correspondence section of this issue we are pleased to publish an interesting letter from Dr. Schofield on "The Cat as a Carrier of Atrophic Rhinitis Infection of Swine."

VETERINARY GRADUATES AND NATIONAL SERVICE

The following has been submitted by the Director of Manpower Planning at the War Office for the information of veterinary graduates called up for National Service:—

In the past most prospective veterinary students completed their period of whole-time service under the National Service Acts before entering Universities, and the call-up of the few that had not done so was deferred if they went into agricultural practice.

In recent years the position has changed and not only has agriculture ceased to be a reserved occupation but a larger number of students are entering Veterinary Schools before undergoing their period of National Service.

The result is that more qualified veterinary graduates have been entering the field of call-up for National Service in the Army than can be absorbed as officers in the Royal Army Veterinary Corps. Those surplus to requirements must of necessity be allocated to other arms of the service where they will have the opportunity of gaining commissions if they show the necessary leadership qualities. Those who fail to obtain commissions, or who do not wish to be considered for commissioned rank, will be given the opportunity of either being retained in the arm of the service to which they have been initially allocated or transferred as other ranks, if the necessary vacancies exist, to the Royal Army Veterinary Corps or to another arm of the service.

Any veterinary graduates who express a wish to serve as other ranks in the Royal Army Veterinary Corps will be allowed to do so if the necessary vacancies exist.

BRITISH AGRICULTURAL DELEGATION TO VISIT THE U.S.S.R.

The Rt. Hon. D. Heathcoat Amory, Minister of Agriculture, Fisheries and Food, has accepted an invitation from the Government of the U.S.S.R. to send a British agricultural delegation to that country. This invitation followed the recent visits to the United Kingdom of two agricultural delegations from the U.S.S.R.

The invitation was issued on behalf of the U.S.S.R. Government by the Main Exhibition Committee of the All Union Agricultural Exhibition of the U.S.S.R. Ministries of Agriculture and State Farms. Mr. I. A. Benedictov, the Minister of State Farms, who is also the Chairman of the Main Exhibition Committee, and Mr. P. F. Kuchumov, the Deputy Minister of Agriculture of the U.S.S.R., will act as hosts to the British delegation.

The delegation's visit will last for two weeks. They will leave for the U.S.S.R. on Sunday, September 25th, and will return to this country on Sunday, October 9th. Their programme will include visits to the Agricultural Exhibition in Moscow, to farms and to agricultural research and experimental stations.

The United Kingdom delegation will be led by Mr. G. R. H. Nugent, J.P., M.P., Joint Parliamentary Secretary to the Ministry of Agriculture, Fisheries and Food, and the deputy leader will be Professor H. G. Sanders, M.A., PH.D., Chief Scientific Adviser (Agriculture) to the Ministry of Agriculture, Fisheries and Food.

Dr. A. W. Stableforth, M.R.C.V.S., D.V.S.M., Director of Veterinary Laboratories, Ministry of Agriculture, Fisheries and Food, will also be a member of the delegation which will include E. E. Cheeseman, Esq., D.SC., A.R.C.S., Scientific Adviser, Agricultural Research Council; H. P. Donald, Esq., D.SC., PH.D., F.R.S.E., Director of the Agricultural Research Council's Animal Breeding Research Organisation, Edinburgh; Sir Peter Greenwell, Bt., Member of the Council of the Royal Agricultural Society of England; Professor D. S. Hendrie, B.SC.(AGRIC.), N.D.A., N.D.D., A.R.I.C.S., Principal of the West of Scotland Agricultural College; P. S. Hudson, Esq., PH.D., Director of Commonwealth Bureau of Plant Breeding and Genetics, Cambridge; member of the 1954 official agricultural delegation to Moscow; W. S. Jones, Esq., B.SC., Chairman of the Welsh Committee of the National Farmers' Union for England and Wales; C. Leathwood, Esq., Member of the Executive Committee of the National Union of Agricultural Workers; J. Mackie, Esq., Chairman of the Scottish Committee of the National Institute of Agricultural Engineering; J. Marshall, Esq., President of the National Farmers' Union of Scotland; A. Muir, Esq., B.SC., PH.D., Head of Soil Survey of England and Wales and Head of Pedology Department, Rothamsted Experimental Station; W. J. Shingfield, Esq., Member of the Transport and General Workers' Union; J. A. B. Smith, Esq., D.SC., PH.D., F.R.S.E., Director of the Hannah Dairy Research Institute; W. C. Tame, Esq., Under Secretary, Ministry of Agriculture, Fisheries and Food; Sir James Turner, President of the National Farmers' Union for England and Wales; H. W. West, Esq., President of the Ulster Farmers' Union, and Member of the House of Commons of Northern Ireland.

"WITH USE OF CAR"

To look through our classified advertisement columns, notably those under the heading Appointments Vacant, is to make one exclaim with the poet, "We look before and after, and pine for what is not." Qualified assistants are at a premium.

Our more senior readers employ a variety of devices for ensnaring these *rara aves*, but even so without conspicuous success. "Use of car," exclaim a score of agitated principals; "regular leisure"; "no Saturdays"; "house". . . . One—and he clearly is among the most fortunate of men—even held out the singular inducement, "Wife undertakes not to interfere." Yet still these competing siren voices lure in vain.

Some senior veterinarians—it may be they either are more spiritually robust or more disillusioned—solace themselves that the value of assistants is illusory; that they are not merely a source of vexation, but actually of loss; one of them at least has observed that principals forgo affluence in proportion as their juniors attain it.

Youth is, traditionally, both cynical and tyrannous, but is not necessarily attracted, to use the cant phrase, by a soft op. The circumstances will be recalled in which young Mr. Whiffers, of the select company of Bath footmen, threw up his situation. The duties, as he handsomely admitted, were not heavy; his principal task was merely to look out of the hall window; but his soul yearned for some more dramatic and rewarding occupation. Can it be that the younger members of the profession are not attracted (figuratively speaking) to looking out of hall windows, either? Would not a rougher, bluffer, cruder challenge be more to their taste?

A London house agent is said to be doing a thriving trade by dint of such advertisement as, "who wants a little, pretentious, mock-Regency horror in the Pimlico suburb of Chelsea?" and so on. A motor dealer regularly demands someone to take "a broken-down, disgusting old jalopy" off his hands. Most significant of all was the advertisement of a firm who needed a gang of men to repair a fabulously lofty, soot-rotted chimney. The dirt, danger, exposure and bad pay of this dubious adventure were all set out in cold print. Yet scores of youthful applicants offered their lives and limbs.

Might we suggest, therefore, that those in need of assistants experiment with a similar technique? Phrases spring readily even to the least fertile mind. Principal, exacting and irascible, requires, etc. No house; no leisure; use of bicycle. . . .

This might prove to be the very pinch of salt to sprinkle upon the coy bird's tail.

THE REGISTER OF VETERINARY SURGEONS

Under Section 25 (4) of the Veterinary Surgeons Act, 1948, and the provisions of Statutory Instrument No. 1150 of 1953, the name of the under-mentioned member has been restored to the Register of Veterinary Surgeons:—

Pinching, Robert Haugh, of 6, North Street, Horsham, Sussex.

PERSONAL

Births

JONES.—On September 1st, 1955, to Fernie, wife of Ted Jones, M.R.C.V.S., of Saint Mary's House, Whitchurch, Salop, a son—John Nicholas.

MALONE.—On August 6th, 1955, at Tudor Lodge, to Margaret, wife of Gerald S. R. Malone, B.SC., M.R.C.V.S., of Rathfriland Road, Newry, Co. Down, a son, Brian Gerald.

OLORENSHAW.—On August 28th, 1955, to Brenda, wife of Peter H. Olorenshaw, M.R.C.V.S., of 37, Norwich Road, Fakenham, Norfolk, a daughter, Elizabeth Ruth.

WATSON.—On September 3rd, 1955, at Reading, to Eileen, wife of A. H. Watson, M.R.C.V.S., a son, Richard, brother for Nicholas.

R.C.V.S. OBITUARY

We record with regret the death of the following member of the profession:—

EMMETT, Frank McLinden (Capt. R.A.V.C., Emergency Reserve) of 15, Friars Court Avenue, Glasgow, W.3. Graduated Glasgow, July 9th, 1952. Died August 24th, 1955.

PROFESSOR F. BLAKEMORE

P. C. writes:—

I should like to add my appreciation of Professor Blakemore's life and work to those already expressed.

As a student I knew him both as a teacher and as a sympathetic adviser. In both capacities he excelled; his last years were devoted to this work and his students will always be in his debt.

His passing seemed to me a personal loss, and our sympathies with his family are deep and heartfelt, but I am sure he would not wish us to grieve; rather let us try to follow his example.

CAPTAIN FRANK EMMETT

Mr. J. E. Wilson writes:—

The tragic death of Frank Emmett as the result of a road accident at the Veterinary Laboratory, Ministry of Agriculture, Fisheries and Food, Weybridge, will come as a shock to his many friends. One of the outstanding students of his year and a silver medallist in medicine, he had been appointed an Assistant Veterinary Investigation Officer with the Ministry of Agriculture, Fisheries and Food and had just began training at Weybridge. He was a most likeable and enthusiastic student and a great humorist.

It is a source of sadness to his teachers, colleagues and friends that such a useful life should be cut off at the very outset of what promised to be a successful career and their sincere sympathy goes out to his sorrowing father and sister and to his fiancée; they were to have been married in a few weeks.

CAPTAIN J. R. BARKER

Mrs. E. G. Taylor writes:—

The passing of Captain J. R. Barker leads me to recall the memories of those happy years I spent "as family" in his household, and I am eager to take this opportunity of adding my great appreciation to the tributes already published.

I was indeed fortunate in being able, as a student in 1923 and onwards, to see practice with him, and in 1926 to be his assistant for a year. Especially was

I fortunate, insomuch as, at that time, there were very few practitioners who wanted a woman pupil, much less to be so bold as to risk losing a client by the innovation of allowing a woman to handle and treat animal patients.

Mr. Barker was far-seeing enough to have no qualms about this, and to recognise that the woman veterinary surgeon had come to stay. He gave me much patient encouragement to try my hand at everything in his large and varied practice, so that a lack of self-assurance I had acquired from the then prevailing doubts and distrusts of the abilities of a woman to do veterinary work, were soon dispelled and I came to love the rough and tumble of the country practice in Hereford under his guidance.

His was a personality of great integrity. His treatment of patients and clients alike was never-failingly conscientious and thorough, and he won respect and love from all who knew him for his honesty and frankness.

His deep interest in his work led him to read widely in his spare time, in fact his work was also his hobby and he gave of his best at all times.

He was a fine example for any young person to follow, for his zeal and interest were stimulating and infectious. He was an excellent teacher with a pleasing modesty, and none of the pedagogue about him. He was always ready to learn new ways, and made it appear that his pupil and he were learning together all the time.

One cannot conclude without a mention of his cheery good humour; and I hope it will not be out of place to recall an accomplishment, or feat, of his, which must have been known to all who knew him well, and which still astounds me. In the early 1920's he was already a big heavy man, square, strong and thickset, but he was able to take a standing jump with both feet together on to an ordinary dining room table. The applause from his young family, especially when the feat was performed at opportune moments in order to lighten an atmosphere of tension or tears among his children, was both refreshing and heartening.

I regard the years I spent in the Barker household as a most valuable experience. There I witnessed the worth of a real man to his family. He met difficult and harassing situations with calm judgment and a great sense of proportion and humour. I never saw him lose his temper or become impatient. He and Mrs. Barker made a grand team.

COMING EVENTS

September

22nd (Thurs.). Meeting of the Essex Division. B.V.A., at the Essex Institute of Agriculture, Writtle, Essex, 7.30 p.m.

23rd (Fri.). Meeting of the North Wales Division, B.V.A., at "Bryn Adda," Dolgellau, 2 p.m.

30th (Fri.). Meeting of the Welsh Branch, B.V.A., at the Belle Vue Hotel, Aberystwyth.

ADDRESSES OF DISEASE INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax

Cumberland. Well House, Hesket New Market, Wigton (Aug. 26).

Renfrew. Thornliemuir Farm, Neilston, Glasgow (Aug. 30).

Surrey. Eastbury Manor Farm, Compton, Guildford (Aug. 27).

Warwicks. Wishaw Hall Farm, Wishaw, Birmingham (Aug. 29).

Westmorland. Haverflatts, Milnthorpe (Aug. 30).

Yorks. Appleyard House, Mickletown Methley, Leeds (Sept. 1).

Swine Fever

Berks. 6, Dorset Street, Reading (Sept. 2).

Cambs. 15, Church Street, March (Sept. 2).

Ches. Outwood Farm and Wood Farm, Heald Green (Sept. 3); Crab Mill Farm, Elton, Sandbach (Sept. 5).

Dorset. Home Farm, Iwerne Minster, Blandford Forum (Sept. 5).

Essex. Cassandra, Briscoe Road, Rainham (Sept. 1).

Glamorgan. Pump House, Pentrebach, Merthyr Tydfil (Aug. 30).

Kent. Woolreeds Farm, Woolreeds Estate, Ashford (Aug. 30); Twisden, Tenterden (Aug. 31); Little Magpie Farm, Cox Street, Detling, Maidstone (Sept. 1); Westwood Lodge, Poorhole Lane, Broadstairs (Sept. 5).

Lancs. Abbey Gardens, Southport Road, Lydiate, Liverpool (Aug. 30); Montrose Piggeries, Normoss Road, Hardhorn, Blackpool (Sept. 2); Whalleys Farm, Chain Lane, Staining, Poulton-le-Fylde (Sept. 5).

Leics. Old Mill Farm, Broughton Astley (Sept. 5).

Lincs. Strawson's Farm, Main Street, Great Casterton, Stamford (Sept. 1).

Norfolk. 2, Tattersett, Kings Lynn (Aug. 31).

Northants. 47 and 50, Lowick Terrace, Moulton (Sept 2).

Perth. Ancaster Cottage, Callander (Aug. 30).

Staffs. "Rugby House," Bishops Wood, Stafford (Sept. 5).

Suffolk. Flatts Farm, Flatts Lane, Tostock, Bury St. Edmunds (Sept. 1).

Surrey. 3, Croydon Lane, Banstead (Aug. 31).

Sussex. Ashcombe House, Lewes (Sept. 2).

Worcs. Sutton Mill, Tenbury Wells (Sept. 5).

Yorks. West End Farm, Pogmore, Barnsley (Sept. 1).

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

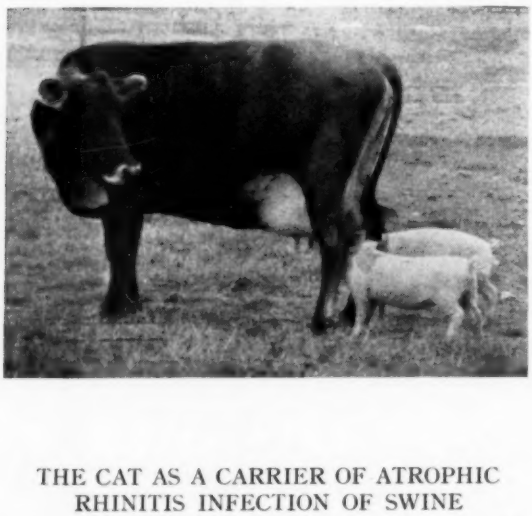
A FALL IN MILK YIELD

Sir,—Examination of a Jersey cow failed to reveal the cause of a fall in milk yield, but subsequent observation gave the answer, as shown in the photograph below.

Yours faithfully,
J. W. H. HOLMES.

Royal Veterinary College and Hospital,
Clinical Department,
Fernleigh,
Crowmarsh,
Wallingford.

August 29th, 1955.



THE CAT AS A CARRIER OF ATROPHIC RHINITIS INFECTION OF SWINE

Sir,—The discovery that the cat may be a carrier of atrophic rhinitis of swine is reported because of its significance in the eradication of this serious infection. An article describing at length the experimental proof is in preparation. Four months ago, during a visit to a large piggery, the owner remarked that one of the several cats frequently slept with the baby pigs to enjoy the warmth of the heatlamp provided in the farrowing pens. Frequently within a week to 10 days many of the piglets began to sneeze. Cases of atrophic rhinitis were present in the herd, and two serious outbreaks had been experienced. The cat in question had a chronic nasal discharge. This purulent discharge when placed in the nasal passage of five-day-old pigs caused well marked cases of atrophic rhinitis. When placed in the nasal passages of older pigs (10 weeks) coryza followed in about one week, accompanied by constant sneezing. Cultures of the exudate from both the cat and the affected pigs gave almost pure *Pasteurella*. Typical cases of atrophic rhinitis were produced in piglets by the use of this *Pasteurella* strain.

This, we believe, is the first time that definite proof of the cat as a carrier of atrophic rhinitis infection has been demonstrated and recorded.

Yours faithfully,
FRANK W. SCHOFIELD.

Ontario Veterinary College,
Guelph,
Canada.

August 31st, 1955

GAMMA GLOBULIN

Sir,—May I be permitted to reply to the letter from Mr. Gordon Cox and draw his attention to the article "Gamma Globulin Prophylaxis of Canine Virus Distemper," Larin & Hodgman, *Vet. Rec.* **66.** 549, published approximately one year ago.

Yours faithfully,
W. BRIAN SINGLETON,

Canine Research Station,
Animal Health Trust,
Kennett, nr. Newmarket,
Suffolk.

August 22nd, 1955.

DISPLAY ADVERTISEMENTS IN "THE RECORD"

Sir,—In recent issues of THE VETERINARY RECORD, delivered to me, the letterpress has been smudged by opposing displayed advertisements. Pages 623, 638, 639 and 640 of the issue of August 20th are badly blackened. Please free our reading matter of all advertisements which merely raise the blood pressure of the not so young members B.V.A.

Hopefully, resignedly though
still obediently, yours,
TOM HARE.

529A, Finchley Road,
London, N.W. 3.

August 25th, 1955.

Such subfusc pages had not come to our notice previously; but to "free our reading matter" as our correspondent suggests would hardly be an economic possibility.—*Editor.*

THE COVER OF "THE VETERINARY RECORD"

Sir,—It is pleasant to see this week that THE VETERINARY RECORD has at last, if only temporarily, received a cover. Ever since the old style was discarded it has seemed that the outer cover was missing from THE RECORD and that it only had an inner introductory one. Is it possible to retain this style and, to complete matters, to have a "back" added in the same colour?

Yours faithfully,
T. HUGHES ELLIS.

Compton House,
Chwilog.
Caerns.

September 5th, 1955.